An Address
ON
MENTAL THERAPEUTICS.

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GENTLEMEN,—The subject on which I venture to offer a few remarks is not only one of great interest in itself, but is of practical value in the rational treatment of disease. There can be no doubt in the minds of thoughtful men as to the *fact* of the great therapeutical influence the mind has on the body. But though some monographs may have been written from time to time on this subject—and it is incidentally touched upon in various works on the brain and mind—its practical application is of the most fortuitous and casual nature. It is difficult to understand why such a powerful means of cure is so systematically neglected and even ignored by the profession. I suppose it is because mental therapeutics have been practically, though unconsciously, for so long the real *modus operandi* of the vast army of charlatans that the whole subject has acquired such a bad name that most men fear for their reputation if they touch it. Indeed, it is only because I have been taught practically so much of its real value and feel strongly that its continued neglect is no small blot on the present system of medicine that I shall venture to recapitulate some of the wide powers the mind has over the body in relation to disease. My remarks will, therefore, fall naturally under two heads, at first being a suggestion as to the extension of what we generally understand by the word "mind" and what is known of its relation to the body, and afterwards pointing out in brief the practical bearing of this knowledge on disease.

Our *ego*, or personality, as defined by Herbert Spencer, is "the permanent *nexus*, which is never in itself in a state of consciousness, but which holds states of consciousness together." I think, however, we all feel that, though the consciousness would fain arrogate the personality to itself, that personality holds a great deal more than mere "states of consciousness" together. It is true that all writers on psychology take the ground that mind is consciousness. This is extended, however, by many to include states that may become conscious if sufficient attention is directed to them. To talk of unconscious mind is said to be a contradiction in terms, and even the unconscious cerebration of the brain, which is now nearly universally acknowledged, was considered as late as 1876 a most objectionable doctrine. Though the whole region of mind is limited to consciousness by psychologists, they all in one way or another admit unconscious psychical processes.

To grasp, however, the scope of mental therapeutics it is necessary to take a wider view—one, indeed, which has long been before me, but which I have not hitherto ventured to formulate, until I recently came across some thoughts, on entirely original lines, ably expressed by the learned Professor of Physics in Dublin, which endorse those suggestions which I am about to lay before this society. Still, if any object to the application of the word "mind" to subconscious intelligence and acts I do not press it; all I would urge is that the actions of both are spiritual or mental functions and not material.

It appears to me that the conscious mind is a very small part of the whole of the psychic force in us. A coral island in the South Pacific is a mere ring of rock in the water of insignificant size to the sailor; but to the biologist or geologist it is the highest peak of a stupendous structure that rises from the bottom of the ocean as a mountain miles high. Commencing, as it does, in the very smallest beginnings, it remains unrecognised until it rises above the surface of the sea. We only see the top of this structure, and call it an island; indeed, it is all we are conscious of except by soundings or occasional glimpses of what is beneath on calm days or at low tides. In the same way it seems to me the conscious is but a very small part of the vast subconscious mind on which it rests. If I may be allowed, therefore, for convenience, the use of the somewhat new and even paradoxical term "unconscious mind," I would say that while the conscious mind has its seat, as we know, in the cortex only, the unconscious mind is connected with—or may we not say is the active principle of—all life that lies below, including even reflex action.[1] ("Reflex," by the way, is a very misleading word, for an action is never really reflected like a ray of light from a mirror, the process being a far more complicated one, and always involving the action of mind or its equivalent.)

Consciousness is not, as far as we know, an inherent quality of the cortex or of the mind by itself, but appears to be the result of the interaction of the two, for when the working of the cortex, and hence the harmony of the two, is disturbed, as by narcotics or a violent blow, it is lost. We are also by no means conscious of all that takes place even in the cortex, for innumerable sensations may, and probably do, continually reach it, of which we are wholly or partially unconscious; in many cases, of course, this is accounted for by non-attention. On the other hand, it would appear from recent researches that it is not possible to be conscious of any vibrations that do not reach the surface of the brain. The conscious mind has reason, feeling, and volition. By it, and by it alone, we direct and control the main expenditure of life and force. This, however, is not done so much by reason as by feeling—it is in the heart, not in the head, as Dr. Maudsley points out, that our deepest feelings are rooted, and he does ill service to the religious faiths who strives to base them on the feeble apprehensions of human reason; the driving impulse by which men are moved to act comes rather from feeling. "A psychology," he says, "which finds the motive power of action in knowledge might be likened to a science which should find the cause of the tidal movements not in the moon, but in the moonshine!"

What I venture to term the sub-conscious mind is on a lower plane and works largely in grooves of habit, and follows closely change of association and sensation; but its powers far exceed in the body those of conscious mind. The unconscious powers of life (and what is life but mind in action?) can make eggs and feathers out of indian corn, and milk and beef out of grass. The new science relating to our protective organisms, so brilliantly worked out by Metchnikoff and others, shows they can carry on without erring a thousand complicated and apparently purposive operations and form chemical combinations that no chemist can compass, working with ease and without fatigue. The sub-conscious mind takes up conscious acts and transforms them into unconscious or sub-conscious habits. It is ever doing this through life; and ease and perfection in any pursuit entirely depend upon the degree in which it ceases to be connected with consciousness and is carried on sub-consciously. Playing the piano, skating, bicycling, skilled trades, and indeed almost everything, depend for their perfect execution on the power of the sub-conscious mind, which is only hampered when interfered with by the conscious mind. The pen of a ready writer, as Miss Cobbe says, seems to dip itself into the ink at the right time, to form of itself all the words, and even to select different words to begin each sentence and to avoid terminating them with prepositions, while all the time the conscious mind of the writer is deeply occupied with the plot. The marvels of playing a brilliant piece on the piano while at the same time conducting a vigorous flirtation show also the greatness of our unconscious powers, especially when we remember that Sir James Paget has pointed out that in rapid playing the finger moves twenty-four times a second, each movement involving at least three muscular acts which, if multiplied by ten, gives 720 muscular impulses *per second* for both hands. It is likely that when habits or artificial reflexes are established in the brain the current of sensation and ensuing motion never goes up to the cortex at all for orders from the conscious mind, the action being short-circuited in the middle brain or basal ganglia. And it is not only actions that are "short-circuited" by habits. Sights and sounds frequently repeated are arrested in our unconscious brain and not allowed to rise to the level of consciousness.

[1] The term "unconscious mind" used in this paper is the "unconscious cerebration" of Laycock and Carpenter, and is equivalent to the "mental latency" of Sir Wm. Hamilton.

If we live near a boiler factory we soon cease to hear it; or if, as in a friend's case, we live near a large dairy where milk cans are washed at night it soon fails to wake us. There appears to be in the sub-conscious mind some power of choice as to whether an impulse shall be short-circuited or sent on up to the cortex. By experiment I find that if a man moves about the room in the morning when his wife is fast asleep and makes loud noises of various kinds they do not wake her, though it cannot be exactly from habit, for probably the exact noise has not been heard before, but rather from an unconscious knowledge of who makes it. On the other hand, the faintest noise in opening the door—often heard before—wakes her up, because it suggests someone else entering. The lower mind seems to think it is the only sound-message requiring the attention of the cortex and so sends it up. It is almost like the action of a private secretary opening all letters and placing a few before his chief, answering the rest himself. A medical man tells me that when house surgeon at St. Bartholomew's Hospital the step of the porter would wake him at once during his week on duty but never when he was off duty. The unconscious mind, we must remember, is not only the active agent in all habits, but in all voluntary conscious actions as well. It is often forgotten that we cannot will the contractions of any muscles, we can only will the moving of leg or arm and are quite unconscious of the very complicated process by which the act is carried out.

But the sub-conscious mind can do greater wonders than these. It not only carries on all the work of the body, but it can use unconsciously the highest cortical centres of thought that are ordinarily worked by the conscious mind. If the conscious mind gives the cortex some work to do, such as solving a problem, recalling a sound, a name, or a place, meanwhile occupying itself completely in some other way, the sub-conscious mind will step in and do the work and give the answer in a surprising way—as O. W. Holmes says: "Our unconscious mind delivers the result at the doors of our consciousness just like a prepaid parcel"; or, on the other hand, it will work alone in forming impulses and recalling memories. This, however, requires time, for a man may try to recall a name and look in a directory for it; but though under his eye he fails to recognise it, for his unconscious mind has not yet had time to find it in his brain. Five minutes after he has closed the book he remembers the name, which he could not do though he actually saw it with his eye (Carpenter). That is to say, the visual impression on the brain, though conscious, fails to recall the mental record of the name, which the unconscious mind succeeds in a few minutes in doing. The other day, leaving home for Brighton, I was stopped at the door by a suggestion from my unconscious mind that I had not much money in my purse; I looked and only found a few shillings. I had previously opened my purse often that day, and the sight of these shillings was unconsciously registered in my cortex, and somehow this fact was presented by my lower to my higher or conscious mind at the door. How often in a similar way impulses and fancies of unconscious origin direct our steps and even save our lives. It is probable that the sub-conscious mind is ever working in the cortical region in the way of deepening impressions and memories. It has been well said in Germany that skating is learned in summer and swimming in winter. That is to say, that the man who has learned to skate one winter will begin the next winter a very much better skater than he left off, the movement and the impressions connected with skating having been deepened by the unconscious mind during the summer, and the same with the swimming.

But it will do more than this. Of all the thousands of impressions that are being received in the cortex from various parts of the body and from our special senses, but very few are even noticed by the conscious mind, though all are registered sub-consciously. We hear a slang expression or a new song; we do not notice it particularly, but the sub-conscious mind does, and the result is that we find ourselves unconsciously repeating the words or humming the tune; and the curious part is that we can often hum the air perfectly if we will do it with the sub-conscious mind, whereas if we try to hum it consciously it goes from us. After a time, however, when its impression has had time to deepen we can hum it at will. For the same reason we can often remember things better when we cease to try to do so with our conscious minds. During sleep, for instance, thoughts range themselves anew. The powers of the unconscious mind can do more in this way than the most arduous effort in arranging facts and ideas in due proportions. Hence we like to sleep over a thing before deciding, and judges in a difficult case always like to take time to deliver judgment—often on the morrow.[2] More than this, we may read, hear, see, indeed, do almost anything involving the highest centres of the cortex unconsciously, the result being only recorded by our sub-conscious mind.

Our conscious mind, as compared with the unconscious mind, has been likened to the visible spectrum of the sun's rays, as compared to the invisible part which stretches indefinitely on either side. We know now that the chief part of heat comes from the ultra-red rays that show no light, and the main part of the chemical changes in the vegetable world are the result of the ultra-violet rays at the other end of the spectrum, which are equally invisible to the eye, and are only recognised by their potent effects. Indeed, as these invisible rays extend indefinitely on both sides of the visible spectrum, so we may say that the mind includes not only the visible or conscious part, and what we have termed the sub-conscious that lies below or at the red end, but the supra-conscious mind that lies beyond at the other end—all the regions of higher soul and spirit life, of which we are only at times vaguely conscious, but which always exist and contain our most abstract and spiritual faculties, surely as the sub-conscious mind links us to the body on the other. Of course, speaking of regions and levels is merely figurative, the non-extension of mind being a fundamental doctrine. I would include in the supra-conscious such a faculty as conscience—the voice of God, as Max Müller calls it—which is surely a half-unconscious faculty. Moreover, the supra-conscious, like the sub-conscious, is best apprehended when the conscious mind is not active. Visions, meditations, prayers, and even dreams have been undoubtedly occasions of the working of the spirit apart from the action of reason or mind.

The powers of the unconscious mind are seen in a remarkable way in insanity. The sane man is one in whom the conscious mind—the middle part of the spectrum—rules. In an unsound mind the supra, or sub-conscious, steps in, and, overpowering the conscious mind, produces ecstatic visions and phantasms on the one man or coarse and sensual conduct on the other. It is remarkable to note in this connexion that when reason is even partially dethroned how the whole unconscious mind can unite in coupling the highest spiritual ideas with the lowest sensuality. In defective intellects, where the conscious mind is weak, the power of the sub-conscious mind is remarkably seen. Miss Martineau tells of an idiot who had his hands washed and nails cut at 11.10, and who came of his own accord exactly at the same hour each day to have the operation repeated, though he knew nothing consciously of time. When consciousness is in abeyance, as in a dream or reverie, or artificially, as in hypnotism or narcotism, the unconscious mind emerges from its obscurity, and ocular and other impressions unconsciously formed upon the brain are seen and noticed for the first time, just as a receding tide lays bare the hidden parts of the coral mountain. A servant in delirium spoke Latin and Greek words which she had absorbed unconsciously from her master years before. If the unconscious mind be stimulated at such times it can exert extraordinary and apparently unlimited powers over the body. An actual blister can thus be produced upon the forehead by its powers without any external application. Reveries and dreams, unconsciously fixing this mind on any part of the body, have produced the forms of letters, and, on credible evidence, the stigmata or marks in the hands and feet resembling those made at the Crucifixion. Once more the unconscious mind is ever writing the record of the conscious mind on the body, in gait, in gesture, and in the lines on the face. This alone is a great subject, but we can only just name it in passing.

The bearing of all this on mental therapeutics is sufficiently obvious. Our field of action, while embracing the whole mind, is mainly the sub-conscious region, which not only can be treated without knowledge of the *ego*, but which can affect through its wonderful powers the nutrition and health of the body to an illimitable extent, and indeed is the

[2] Of course, in this and similar cases I have given the results are generally attributed to purely physiological causes. I do not think, however, I stand alone in feeling that they imply psychic action. Indeed, one might say that if, as is well established, there is no psychic act without a physiological change, so it is probable that there is no physiological change in the higher nerve centres without a psychical equivalent, of which, however, we may be wholly unconscious save by its results.

real agent in most cures. Bearing this somewhat lengthy preface therefore in mind, which will throw a light on all we yet have to say, let us proceed to consider *longo intervallo* how the body affects the mind in disease.

In disease the mind has special power over the body. The very word disease is coined to express a mental idea "ease" and not a physical change. The cortex, or surface of the brain—the seat of conscious mind—is a special factor for good or evil in every disease. Every organ and function is represented there, and there brought into vital unity. Professor Laycock says, "The hemispheres, as the organ of thought and mental action proper, are in unity with all the processes of life whatever, whether they be termed vegetative or animal."[3] Indeed, the unity of the body and to a great extent of the "ego" is formed in the cortex. Bain shows that all tissue nutrition is influenced from this great centre, and most physiological acts can be arrested mentally by its action. It controls unconsciously anabolic and katabolic cell action; and there is no doubt that a sound, cheerful mind, acting through it, is a great protector against disease of all sorts, and if disease has a hold a cheerful mind can often cure it. Mental therapeutics can be applied to the body in one of three ways: (1) by the unconscious mind[4] directly—in spiritual or physical influences and surroundings; (2) by the unconscious mind acted on by the conscious indirectly—in rousing faith in persons, remedies, or places, &c.; and (3) by the unconscious mind acted on by the conscious by direct effort—in determination to get well, to shake off illness, ignore pain, &c. With regard to the ailments for which mental therapeutics is useful it is a powerful means of cure in all organic and inorganic diseases, while in hysteria and allied neuroses it is the only reliable means of permanent efficacy. Let us, then, first consider the influence of the mind in ordinary diseases.

Putting aside all those cases which get well without any means (the cure of which we maintain is solely effected by the action of our sub-conscious mind), we will give just one or two special illustrations of the second of the three ways we have spoken of. At the siege off Breda in 1625 the whole garrison was down with scurvy; the Prince of Orange smuggled into the town three small phials of essence of camphor, and his physician put three or four drops into a gallon of water and the men recovered and saved the town. As to this we may remark that it is a matter for curious conjecture as to how far generally the cures we now attribute to drugs in homœopathic or other doses will be considered in the future to be the results of the powers of our unconscious minds. A patient suffering agonies with toothache was told by her medical man to apply to the tooth a silver coin wrapped in silver paper. Believing it to be infallible she did so several times and was relieved. One day, however, she was told the remedy was wholly mental, and at once it was powerless. Here is an instance of the pernicious effects of the conscious mind inhibiting after first aiding the sub-conscious. Unzer, in 1771, says: "The expectation of the action of a remedy often causes us to experience its operation beforehand." I have just received a remarkable illustration of this that, however, goes beyond this statement. A colleague of mine gave a patient the other day some opium pills to produce sleep, but forgot to mention their object. Last week he found the pills had acted well each morning, but the patient had had no better sleep. Another patient thought she had taken a large dose of rhubarb as a remedy for constipation and the thought was effectual. Hunter says, "By my will I can fix my attention on any part until I have a sensation in that part"; while Müller affirms that it may be stated as a general fact that any state of the body which is expected with certain confidence will be very prone to occur as the mere result of that idea. It is easy to produce symptoms by suggestions. If, for instance, you press some particular part of the spine of a neurasthenic and say, "Do you feel any pain here?" he may say, "No." But if you persist in your suggestion for half-a-dozen times, and the nervous centres are at all susceptible, he will say, "Yes," and the pain suggested by you will be felt. Now this is true with regard to producing cures as well as in producing diseases. The action of the sub-conscious mind in presenting a fact to the conscious mind is remarkably illustrated in a recent story of Sir R. Quain's. He was sent for by a man aged forty years who had a delusion that his body had a most offensive smell, and he even covered up his pictures lest they should be tainted. No smell could be perceived, but a most fœtid iliac abscess was found and opened. His idea, therefore, was not a delusion, but a recognition through his sub-conscious mind of his condition.

Let me give one more illustration of the power of the sub-conscious mind in ordinary disease—I refer to the therapeutic value of the common mantel-piece striking clock (I say clock in preference to watch, because it has a greater value; and I say mantel-piece instead of hall clock for the same reason; and I add striking as being of still greater efficacy). Sir Dyce Duckworth, without dwelling on the value of mental therapeutics, has pointed out their use by means of the clock, in showing the great effect in cases of persistent vomiting in giving the liquid food in teaspoonfuls every five minutes by the clock. If the patient is told that the food thus given will be retained, and if he can see the clock clearly from the bed, it will probably be successful, for at the exact time the sub-conscious mind enables the stomach—probably by some inhibitory power over the vomiting centre in the medulla—to retain the food. The extraordinary value of the clock in labour in producing regular pains is apparently but little known. What a fountain of health also it may become to both mother and child! The nursery without it is a scene of confusion and bad management, which ceases when mother and nurse have learned that the child must be nursed in the day every two hours by the clock, and every four hours at night, and never at other times. The real value of the clock in this, as in other cases, is truly scientific, and relies for its potent effects on rapidly formed accurate psycho-physical habits, or artificial reflexes, in the brain. A woman about seventy years of age came to me in deep distress about her obstinate constipation, which was so severe that every enema and pill had failed and mechanical evacuation was the last resource. This condition had continued for some years. The patient was of exceptionally powerful mind and will and remarkable intellect. Seeing this I relied upon the clock as an efficacious aperient. I explained the power of an exact habit over the bowels, and told her she would be cured if at 9.30 A.M. exactly by the clock on the mantel-piece she sought relief each morning. She was at first aided artificially at the exact hour, but after a few mornings when 9.30 arrived, and she was taken out of bed, the bowels began to act, only she sometimes wanted to relieve them before the hour. This was never allowed; she was told that to be too soon would prevent the result as much as being too late. At the end of six weeks the bowels were duly relieved without medicine at half-past nine exactly by the power of sub-conscious habit and at the end of six months she had never missed a day. She has now no further trouble. I mention this case, for it shows the power of mental therapeutics even in the decline of life.

Let us now consider for a moment the action of the mind on nerve diseases. By this we specially mean nerve irritation or nervousness and nervous debility. There is a great difference in the treatment of these cases from hysteria. In nervousness the main cause is nearly always external, whereas in hysteria it is nearly always within the brain itself. The brain being, therefore, as a rule, sound, although exhausted or irritated, we can apply mental therapeutics not only unconsciously by change of scene, surroundings, companions, and occupations, but consciously by direct influence and instruction; in hysteria this is altogether different. The word "hysteria" is generally uttered with contempt and is often treated as if synonymous with malingering. In a recent medical work we read: "The sister of the ward and the house physician settled between them that the case was hysterical and the girl was malingering; that is, that hysteria *means* shamming." Such a statement takes us back to the Dark Ages, when all insanity was possession by an evil spirit; or it certainly implies that one with serious nerve disease is simply possessed by a lying spirit. A disease due to the imagination is not necessarily an imaginary disease, but can produce functional and even organic disturbances. The late Dr. Sutton once said to me: "If a man is so ill as to say he is ill when he is not ill he must be very ill indeed." Now the nerve structures in the brain that are involved in hysteria are probably what we may call ideal nerve centres; that is, the seat of mental activity, conscious and unconscious. The nerve molecule is believed to act by vibration, or re-arrangement of its atoms, which are very numerous. If I think, certain vibrations are believed to take place in my ideal nerve cells; if I feel or act, in my terminal nerve cells. Thought and action.

[3] Mental Physiology, vol. ii., p. 144.

[4] Let me repeat here that if any prefer the indefinite word physiological cerebration it will do as well, though to me and others the active power is too clearly "psychic" to be doubted.

which to us appear so widely different, are probably changes similar to each other occurring in different centres. Both are the result of cell actions and are most nearly allied, the cells being probably often side by side or very closely connected, and thus an action commencing at one nerve centre may readily be transferred to another. An instance will suffice: the fact of the teeth being set on edge by the scraping of a slate pencil on a slate is too well known to need description. But what is the cause? We hear the scraping, and as an unpleasant sound is composed of air waves of irregular lengths it jars the auditory nerve. It happens that the auditory nerve lies in a bony canal alongside the nerve that is connected with the teeth and tongue, and this jarring is communicated from one nerve to another in this canal by contiguity and the brain receives the sensation of the teeth being set on edge shortly after the disagreeable sound is heard. This illustrates the transference of vibration from a nerve of especial sensation to one of common sensation. Let us now consider this transference from *ideal* to sensory or motor centres.

It has been well said, "We think as we feel, or think we feel, and we feel as we think. If we feel a pain we think we are ill; and if we think we are ill we feel ill." If my ideal centre vibrates with the thought of crossing the Channel in rough weather, and pictures the nausea that would then be felt, these vibrations are transmitted to the terminal centres of the sensory nerves running from the stomach, and I actually feel sick from communication with a sensory centre, and possibly, if of a highly nervous organisation, may actually be sick from transference to a motor centre. Real feelings and real acts can be started in entirely ideal centres. If we think intensely of any part of the body long enough we feel sensations in that part. If we think of a good dinner our mouths may water. We shiver whether we only think of cold or actually feel cold. The sensation of pain can be produced as really and vividly by thoughts or ideas alone, as light in the eye by striking it in the dark. In short, every sensation of the body ordinarily produced from without can also be produced from within. These ideal vibrations, acting on motor and other centres, are quite different from the action of a motor centre by the direct impulse of the will, the action being in the latter case voluntary and in the former involuntary. So far we have only spoken of ideas of which we are conscious, so that although the modes of exciting these motor and sensory centres are abnormal *we know them to be so*, and hence are not deceived and do not deceive others into believing them to be natural. Thus, when our teeth are on edge from sounds we do not go to the dentist; if we vomit from ideas we do not think we are dyspeptic; if he hear noises in the ear we do not look for them externally; if we shiver from thinking of cold we do not put on more clothing. But now let us go one step further, into the region of what I have called the sub-conscious mind, and of memories and habits; and the theory I wish to present as to the mental causation of these nerve troubles we group under the word "hysteria" will be made plain. Our brain not only acts by the will and the ideas of the conscious mind, as we have seen, but is continuously vibrating with ideas, memories, and trains of thought of the sub-conscious. It is so even with regard to common sensation. If you concentrate your attention on any part of your body you become aware of sensations in it that escaped your attention before, but were equally there then. If with a feather I lightly tickle the back of the neck, and at the time you are engaged in very earnest conversation, the vibration aroused in the sensorium is unnoticed by you; and yet if I call your attention to the part it is noticed at once. By increasing the stimulus I can make the waves of vibration set in action other centres: involuntary ones, such as cause a shaking or shuddering of the neck; or voluntary, such as turning the head round or moving away. If you are asleep I may tickle the foot so that you draw the leg away and you wake up. In this case you are probably conscious of moving the leg; but the stimulus that made you do it was too slight to reach your consciousness. We may thus be conscious of a transferred vibration leading to action or sensation, and yet be ignorant of the cause that set it going. Memories again will involuntarily, and it may be unconsciously, arouse both feelings and actions.

Let us now sum up our results, taking a definite case, say, of a pain in the little finger. A pain is felt in the little finger, we say, though we really know that the only seat of any sensation is in the brain. It is there at the cortical termination of the ulnar nerve which leads from the little finger that all the vibrations take place, of which the mind becomes conscious and calls pain. Whenever these vibrations take place in the nerve centre belonging to the little finger in the brain the mind always refers the sensation to the commencement of the nerve in the little finger whatever may be its real origin. In the same way, if in a house the hall-door bell rings you say there is someone at the hall-door; if the drawing-room bell there is someone there; and yet such may not be the case. I may have pulled the door bell wire inside the hall or as I passed down the kitchen stairs, or a rat may have moved it, or I may have struck the bell itself and made it ring, or a shock of earthquake may have shaken it, or a strong gust of wind, and yet, although these causes are so various, you, in the kitchen, always say, "There is someone at the front door." It is so in the body. (1) The little finger is pricked—there is pain in the little finger. (2) The ulnar nerve itself is pressed on at the "funny bone"—there is pain in the little finger. The hand may be cut off, and still if the nerve be irritated in the stump by pressure the man feels the pain in his imaginary little finger as truly and vividly as if it were actually there. (3) Or, again, there may be a tumour in the brain pressing on the nerve centre in the brain of the ulnar nerve and the most acute pain is felt in the little finger. All these instances are from direct irritation of the nerve in some part of its course. But, as we have seen, we may go much further. The hall-door wire may have got caught with the drawing-room one, so that when the latter is pulled it is the hall-door bell that rings; the vibration is thus transferred. So in the brain. (4) I may set to work to think of my little finger, and so start sensations in it which, if not actual pain, are still sensations. But if I have the idea that it is injured, though it may not be, I may feel the pain acutely from an idea alone. Dr. Tuke tells us of a butcher, pale, pulseless, and suffering acute agony, as he said, in his arm, who was brought the other day into a druggist's shop. His cries were dreadful, for he had slipped in hooking a heavy piece of beef and was suspended by his arm on the sharp hook; and yet when the arm was exposed it was uninjured, the hook having only caught in the sleeve. (5) But, again, the pain may have been originally caused by a gathering in the little finger and afterwards kept up long after the gathering was gone by the ideal centre. (6) Association, as seeing others with crushed little fingers; or (7) memories, conscious or unconscious, of crushed little fingers may also start and keep up this pain. Observe, then, the varied causes with the same effect. Only, in conclusion, we may add that while in health it is generally easy to discriminate between pain in the little finger caused by injury to the little finger from that set up in other ways, in nerve disease, where the sub-conscious mind has greater sway, it is not—nay, it is sometimes impossible not only to the sufferer, but to the medical man who attends him.

Hysteria often begins in some slight but real disease in a person with an ill-balanced or worn-out brain—one in which the sub-conscious mind has too much sway, so that its feelings ordinarily unnoticed are ever present to the consciousness. Such disease, therefore, long after it is well continues to set up a train of associations that produces the true hysterical disease—a disease the seat of which appears to be in the body but is really in the brain. Now we must remember that while we may be wrong when the door-bell rings in saying there is someone there we are certainly wrong if we go there and, finding no one, to say it is nothing at all. Something must have pulled the bell. And yet it is this which is still being said by medical men through want of training in mental therapeutics, combined with too great training in believing in only what they can see or feel or hear. If such men find there is nothing wrong with the knee-joint, however loudly the patient may complain, they may tell him there is nothing wrong with him. Consider the injury unconsciously inflicted on a nervous sufferer, who, feeling agonising pain in the knee, is first well pulled about, and then, because nothing can be felt on the spot, is calmly told that nothing is the matter and is sent away with the diseased ideal, or other centre in the brain, uncured. Mimetic or imitative hysteria shows the wonderful powers of the sub-conscious mind over the body for evil as nothing else does, simulating every known disease, including tumours, deafness, blindness, dumbness, paralysis, St. Vitus's dance, &c., and is capable of producing the highest temperatures of fevers. Now if the range of psycho-physical ailments is large the power of mental therapeutics to cure them is equally great. I find here, as in forming character

in children, the best work is performed unconsciously. We find in child-training the unconscious power of environment and habit are far more effectual than conscious precept. The best cures of hysteria are effected in the same way through the unconscious mind. If the case is in every way in good health, and has not entered the vicious circle of dyspepsia and debility, it can probably be cured in a short time, without isolation, going to bed, or any form of long treatment. Perhaps it may be cured instantaneously by applying to the irritated ideal centres that keep up the disease good suggestions, consciously or sub-consciously, sufficiently powerful to overcome the bad ones. Their application by means of hypnotism is unnecessary and often in the end aggravates the condition which it is meant to relieve, for suggestions are thoroughly effectual without it if you have confidence and have gained the respect and trust of your patient. If all this appears as novel as some of the terminology I have used it is simply because mental therapeutics are still the unexplored Africa of medical science, for it is still almost rank heresy to suggest that there can be any mode of cure that is not found within the revered pages of the British Pharmacopœia. We must, however, remember one great point with regard to suggestion—that it is like nitrogen. Nitrogen is the essential element in all animal life; it forms four-fifths of the air we breathe; and yet, curious to say, we have no power to use it in a pure state. We can only take it unconsciously when combined with other substances in the form of proteid food. It is the same with suggestions. Not one hysterical sufferer in a hundred can receive and profit by them in a raw state—that is, consciously; they must generally be presented, as we have said, indirectly to the sub-conscious mind by the treatment and environment of the patient. An electric shock often cures slight hysterical diseases instantaneously, acting as it does on the sub-conscious mind through the conscious. No doubt it would be easier if we could say to these sufferers, "The disease is caused by suggestions from ideal centres, and to cure it all you have to do is to believe you are well." Still, as it would be impossible for us to take our nitrogen pure from the air the mind cannot as a rule be thus acted on directly when the brain is unhealthy. Suggestion must be wrapped up in objective treatment, directed ostensibly and vigorously to the simulated disease. It is not, however, enough in mental therapeutics to present good suggestions; we must also remove previous bad ones. Such a patient must therefore be isolated to avoid conversations and sympathy with the patient's sufferings, all of which keeps up the action or vibration of the diseased ideal centres. The range of mental therapeutics is, however, by no means limited to hysterical diseases. The powers of the sub-conscious mind are such that we can place no limits to its influence. I could give instances, but time fails. When the mind is unsound it is interesting and remarkable—though quite intelligible—to notice that mental therapeutics generally fail obviously because the psychic element on which they should act is in itself disorganised. From what has been said it will be gathered that in ordinary and some nervous diseases, while mental therapeutics act largely through the sub-conscious mind, they can also be directly presented to the intelligence. While, on the other hand, in true hysteria nearly all the work has to be done unconsciously, the conscious mind being fixed, not on mental therapeutics, but on the outward means used.

I have already pointed out how completely the whole of this science is ignored. Its power is everywhere seen and felt—in out-patient departments, in the hospital ward, in the consulting-room, and by the sick bed; but it is seldom spoken about, and still less often taught, though few are bold enough to deny the potent powers of mental therapeutics for good. If one turns from the physician's daily life to his library one still fails to find in any modern system of medicine the subject fairly and fully recognised. I have looked through many leading systems of medicine, but in no standard work can I find this subject fairly considered and discussed. A volume called "Suggestion in Therapeutics," from Nancy, shows the use of the unconscious mind as a curative agent when under hypnotic suggestion; but we want far more than this. Here and there great masters in medicine have admitted the enormous value of mental therapeutics, but the subject has not been followed up save for the sake of filthy lucre by quackery. It is the same in the teaching, clinical or otherwise, in the hospitals or class-rooms. Students listen with rapt attention to the powers of guaiacol, piperazine, phenocoll, and the whole round of well-advertised modern drugs; but how often is their attention directed, save in ridicule, to this mighty curative agent, that in its powers pretty well balances the whole Pharmacopœia—the mind? Does any practical medical man doubt these powers? Is he not aware of the ingredient faith, which, if added to his prescription, makes them often all powerful for good? Does he not practically know the value of strongly asserting that the medicine will produce such and such effects as a powerful means of securing them? Have not general practitioners often seen how much more efficacious the very same drugs have proved when prescribed in the physician's solemn consulting room than they were when connected with their own humbler environment and less august presence? If, then, this power is so well known, why, in the name of common sense, should it be pooh-poohed and ignored as it is? It has its laws of action, its limitations, its powers for good and for evil; would it not clearly help the medical student if these were indicated to him by his lawful teachers, instead of his gleaning them uncertainly from the undoubted successes of the large army of irregulars? There can be no doubt that, after all, a silent revolution is slowly taking place in the minds of medical men, and that our present text-books on disease, content with merely prescribing endless selections and combinations of nauseous drugs, and dismissing any mental cure in a single line as unworthy of serious consideration, will soon be replaced by others containing views more worthy of the century at the close of which we live. For although these drugs are still administered but few medical men now believe that they are the cause of the cure, for very gradually it is beginning to dawn upon us that most nervous diseases are easily and naturally treated by mental therapeutics, and that the still persistent efforts to cure them by the stomach are neither reliable nor rational. It ill becomes, therefore, the medical man, who recognises in these cases that it is the mind that cures, to decry any form of faith cure, however little its process may be understood by him in detail. We have seen that the powers of the sub-conscious mind over the body are well-nigh immeasurable; and knowing, as we now do, that our old division into functional and organic diseases is merely the expression of our ignorance, and that all diseases, even hysterical, involve some organic disturbance, we are prepared to believe that faith cures, putting into operation such a powerful agent as the unconscious mind, or, if you prefer the formula, "the forces of nature," are not necessarily limited to so-called functional diseases at all. Dr. Tuke's cure of warts by faith is well known, and in spite of the imposture that has lately been exposed at Lourdes there is great difficulty in believing that the cures effected there and elsewhere are limited to what we call functional diseases. It is perhaps the connexion of mental therapeutics directly with faith-healing, Christian science-healing, and hypnotism, and indirectly with liquid electricities, billionth dilutions, and quack remedies of all sorts, that has so far deterred the profession from examining very closely its wonderful powers. This disgust is natural if we consider, for instance, one or two sentences from Mrs. Eddy's book on "Christian Science." She says: "If the disease is consumption begin your argument by taking up the leading point, showing that it is not inherited, and that inflammation, tubercles, hæmorrhage are but thoughts, beliefs, mental images before mortal minds, not the immortal mind. Drugs and cataplasms are shocking substitutes for the dignity and potency of mind." And again: "Ossification, or any abnormal condition of the bones, is the action of the mind as directly as insanity. Bones have no more substance than thoughts; what we call matter was primitively error in solution." Small wonder, in the face of such remarkable statements, if some turn with disgust from the whole subject. But we do maintain that it is largely our own fault if the science of mental therapeutics is thus parodied, for it includes no such vain metaphysical theories as we have quoted, nor any such surrender of will and personality as hypnotism requires, nor the revolting assumption of the miraculous that is seen in many faith-healing centres. On the contrary, the careful study of the sub-conscious mind and its connexion with the body on one side and consciousness on the other delivers us both from unnecessary hypotheses and objectionable practices. When these laws have become the subject of serious study, and when the whole science is better understood and earnestly taught in the profession, the misuse and abuse of this great therapeutic agent by ignorant quacks will largely cease and the true curative agent of nearly all diseases will at last stand revealed.

ABDOMINAL SURGERY AT THE ROYAL INFIRMARY, NEWCASTLE-ON-TYNE, FROM JAN. 1ST TO JULY 1ST, 1896.

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I WAS very much interested last year in a series of lectures published by Mr. T. Holmes, in which he gave the results of the laparotomies performed at St. George's Hospital over a lengthened period. In his opening remarks he laid great stress on the greater value such a series of unselected cases must have as compared with a successful case here and there, and I have no doubt there are many who share his opinion. In this paper I propose to give briefly the abdominal surgery done for the first six months of this year at this Infirmary. I have included the operations on the kidneys, ventral and umbilical herniæ, bladder (suprapubic) and uterus, ovaries and tubes. The total number of operations is 117, with thirty deaths. The cases are distributed as follows:—

TABLE I.—*Showing Cases of Abdominal Surgery at the Royal Infirmary, Newcastle-on-Tyne, from Jan. 1st to July 1st, 1896.*

—	Cases.	Recovered.	Died.	—
Injury	4	3	1	
Intestinal obstruction	17	7	10	
Malignant disease (not for obstruction)	13	10	3	
Pyloric stricture	2	0	2	
Gastric ulcer (perforated)	2	1	1	
Umbilical and ventral hernia	8	8	0	Radical cure.
Appendix	13	12	1	
Pancreatic cyst	1	1	0	
Lymphangiectasis of mesentery	1	1	0	
Obstructive jaundice	2	1	1	Both due to malignant disease of the head of the pancreas.
Kidneys	8	7	1	
Uterus	8	4	4	
Ovaries and tubes	29	25	4	
Bladder	4	3	1	
Tuberculous peritonitis	1	1	0	
Abscess	1	1	0	
Fæcal fistula	1	1	0	
Exploratory	2	1	1	
Total	117	87	30	—

The cases of injury are all of interest and brief notes are appended. The first was that of a young man aged twenty-seven years who fell down the hold of a ship. On admission there was a long abrasion in the right iliac region, with some fulness and extreme tenderness. His urine was loaded with lithates and contained blood. He gradually developed symptoms of peritonitis, and two days after admission an exploratory laparotomy was done through the site of the abrasion. The muscles were contused, and on opening the peritoneum there was a considerable collection of blackish blood in the pelvis. This was washed out, nothing definite being found. A drainage-tube was inserted, which was removed the next day. The blood gradually disappeared from the urine and he made a quick recovery.

The second case was that of a man aged thirty-three years, who was stabbed in a scuffle. There was a wound three-quarters of an inch in length on the left side one inch above the left anterior superior spine of the ilium, which had been stitched. There was a good deal of surrounding ecchymosis and great tenderness, and the abdomen was distended. A similar wound was found below the left clavicle with surgical emphysema. An incision was made just internal to the abdominal wound and came immediately down upon a large piece of omentum extruded through a wound in the peritoneum. It was gangrenous and so was ligatured and removed. There was pus between the muscular planes. He also made a good recovery.

The third case was that of a man aged twenty-eight years, who fell off a stage on the ship's side—a distance of 30 feet. Some blood was oozing from the urethra and a catheter drew off bloody urine. Considerable tenderness existed over the right half of the abdomen. A long transverse incision was made in the right loin. A large quantity of clotted blood mixed with urine was found, and on introducing the finger deeply it was found that the kidney was literally torn to bits. A large piece equal to more than a third of the whole organ was removed, as it was lying quite detached. The wound was packed and the patient made an uninterrupted recovery.

The last case was that of a woman said to have aborted, who was admitted with a piece of small intestine lying in the vagina. A median incision showed a rupture of the uterus on the right side just above the cervix and a piece of small intestine passing through. The uterus was removed, the stump being made extra-peritoneal. The intestine was found damaged and there was a tear in the mesentery cutting off the blood-supply. This part was resected, the cut ends being united over Allingham's bobbin. The woman, however, sank and died two days later.

The cases of intestinal obstruction are recorded in Table II. The first case in this table presents no particular features of interest. The obstruction had lasted three days before admission and the patient died from exhaustion soon after the operation. The second case was peculiar. The man had had diarrhœa for twenty-four hours. Just before admission he felt a desire to strain down, which he did so forcibly that he felt something protrude beyond the anus. On admission there was an intussusception with many inches of intestine protruding through the anus. An immediate laparotomy was performed and the invaginated bowel reduced with some trouble. The man made a quick recovery. The following are the particulars of Case 4. A woman aged forty-five years was admitted with obstruction of some days' standing. There was a history of long-standing femoral hernia, which had disappeared. On opening the peritoneum by a median incision a small piece of gut was found in the sac cut clean through, there being a hole in the side of the intestine admitting the point of the finger. About four inches were resected, Allingham's bobbin being used. The patient rapidly sank. No. 5 was a most interesting case. The day before admission the patient had been operated on at her own home for strangulated hernia in the right side. The gut was found gangrenous, and was opened and left, but the symptoms of obstruction not being relieved she was sent into the infirmary. The sutures were removed, the incision enlarged, the intestine drawn out of the peritoneal cavity, a large piece resected, and the divided ends united by end-to-end sutures without any bobbin. The wound was scraped, and the edges freshened and closed. An uninterrupted recovery was made. The other cases in this section call for no special remark.

In Table III. are detailed the cases of malignant disease. The following are the particulars of Case 4. The patient was a woman aged forty years. Four years before admission whilst in bed she had noticed a small lump about the size of an egg in her left side projecting underneath the border of the last rib. When touched it slipped away under the ribs. It gradually increased in size and became painful. On examination a large mass was found in the splenic region, extending as low as the iliac crest and forwards to within half an inch of the median line. It was tender, hard, with an even surface, and gut could be felt over it. On opening the peritoneum the growth was seen to be retro-peritoneal. The peritoneum was stripped off, revealing a very large, rounded, encapsuled tumour, one part of which was seen to pass through an opening in the diaphragm. It was a difficult operation, with profuse hæmorrhage, and intravenous injection of saline solution was resorted to whilst the patient was on the table, but the tumour was got cleanly away, the hæmorrhage stopped, and the wound closed. The patient never thoroughly rallied and died later the same day. On laying open the tumour the kidney and suprarenal were found lying at the lower part of it and had been removed with it. Both organs were somewhat compressed, but were quite healthy. The growth itself was evidently a sarcoma, the central part being distinct growth. The larger half, however, appeared to be decolourised blood-clot. The whole

TABLE II.—*Cases of Intestinal Obstruction.*

No.	Age.	Nature of case.	Operation.	Surgeon.	Result.
1.	21	Tuberculous peritonitis (bands).	Bands divided.	Mr. Hume.	Died.
2.	51	Intussusception.	Intussusception reduced.	Mr. Hume.	Recovered.
3.	22	Suppurating peritonitis.	Bands divided; drained.	Mr. Hume.	Recovered.
4.	45	Femoral hernia; gut divided by Gimbernat's method.	Resected gangrenous gut.	Mr. Page.	Died.
5.	53	Femoral hernia; gut gangrenous.	Resected gangrenous gut.	Mr. Arnison.	Recovered.
6.	59	Carcinoma of the cæcum.	First coil opened; Paul's tube inserted.	Mr. Page.	Died.
7.	52	Umbilical hernia, strangulated.	Intestine afterwards sloughed.	Mr. Martin.	Died.
8.	5	Strangulated by band.	Band divided.	Mr. Page.	Recovered.
9.	—	Carcinoma of the sigmoid.	Colotomy.	Mr. Page.	Died.
10.	70	Hernia.	Laparotomy.	Mr. Arnison.	Died.
11.	6	Internal band.	Band divided.	Mr. Arnison.	Died.
12.	34	Carcinoma of the colon.	Anastomosis.	Mr. Page.	Died.
13.	12	Intussusception.	Gut gangrenous; patient *in extremis*.	Mr. Arnison.	Died.
14.	3	Tuberculous peritonitis.	Band divided.	Mr. Arnison.	Recovered.
15.	36	Intussusception.	Gut gangrenous; resected.	Mr. Black.	Died.
16.	—	Carcinoma of the rectum.	Inguinal colotomy.	Mr. Hume.	Recovered.
17.	—	Carcinoma of the pylorus.	Gastro-jejunostomy.	Mr. Page.	Recovered.

TABLE III.—*Cases of Malignant Disease (not for obstruction).*

No.	Age.	Nature of case.	Operation.	Surgeon.	Result.
1.	46	Carcinoma of the peritoneum general.	Exploratory only.	Mr. Page.	Died.
2.	45	Carcinoma of the rectum.	Exploratory only.	Mr. Hume.	Recovered.
3.	—	Carcinoma of the uterus and peritoneum.	Exploratory only.	Mr. Hume.	Recovered.
4.	40	Sarcoma in front of kidney.	Removed.	Mr. Williamson.	Died.
5.	—	Carcinoma of the peritoneum.	Exploratory only.	Mr. Arnison.	Died.
6.	—	Carcinoma of the peritoneum.	Exploratory only.	Mr. Williamson.	Recovered.
7.	—	Carcinoma of the peritoneum.	Exploratory only.	Mr. Williamson.	Recovered.
8.	53	Carcinoma of the cæcum.	Ileo-colostomy.	Mr. Hume.	—
9.	—	Carcinoma of the rectum.	Inguinal colotomy.	Mr. Williamson.	Recovered.
10.	23	Carcinoma of the rectum.	Inguinal colotomy.	Mr. Williamson.	Recovered.
11.	—	Carcinoma of the cæcum.	Intestine opened, Paul's tube.	Mr. Page.	Recovered.
12.	—	Carcinoma of the cæcum.	Intestine opened, Paul's tube.	Mr. Page.	Recovered.
13.	—	Carcinoma of the colon.	Exploratory only.	Mr. Hume.	Recovered.

TABLE IV.—*Cases of Kidney Surgery.*

No.	Age.	Nature of case.	Operation.	Surgeon.	Result.
1.	62	Hydronephrosis (no cause found).	Nephrectomy.	Mr. Williamson.	Recovered.
2.	42	Hydronephrosis (due to stone in pelvis of kidney).	Nephrectomy.	Mr. Hume.	Died.
3.	25	Renal colic (no stone found).	Nephrotomy.	Mr. Williamson.	Recovered.
4.	28	Renal colic (no stone found).	Nephrotomy.	Mr. Arnison.	Recovered.
5.	46	Floating kidney.	Nephrorraphy.	Mr. Arnison.	Recovered.
6.	29	Floating kidney.	Nephrorraphy.	Mr. Arnison.	Recovered.
7.	23	Floating kidney.	Nephrorraphy.	Mr. Page.	Recovered.
8.	29	Floating kidney.	Nephrorraphy.	Mr. Page.	Recovered.

TABLE V.—*Uterine Cases.*

No.	Age.	Nature of case.	Operation.	Surgeon.	Result.
1.	—	Procidentia uteri.	Hysteropexy.	Mr. Hume.	Recovered.
2.	—	Uterine fibroids.	Hysterectomy.	Mr. Hume.	Recovered.
3.	32	Uterine fibroids.	Hysterectomy.	Mr. Williamson.	Died.
4.	44	Uterine fibroids.	Hysterectomy.	Mr. Page.	Died.
5.	61	Pedunculated fibroids.	Removed.	Mr. Arnison.	Died.
6.	—	Uterine fibroids.	Hysterectomy.	Mr. Hume.	Recovered.
7.	49	Uterine fibroids.	Hysterectomy.	Mr. Hume.	Died.
8.	42	Uterine fibroids.	Hysterectomy, with extra-peritoneal treatment of pedicle.	Mr. Page.	Recovered.

was covered with a thick fibrous capsule. Case 10 was an interesting example of advanced epithelioma of the rectum in a young man only twenty-three years old. The two cases of pyloric stricture were under the care of Mr. Page. In both he performed the usual operation of pyloroplasty devised by Heineke, but in each case with a fatal result. The case of perforated gastric ulcer, also under Mr. Page, was most interesting, but as it has already been published in THE LANCET[1] I will not repeat it. The second case of gastric ulcer (perforated) was that of a young woman twenty-five years of age, who was admitted twenty-eight hours after the rupture. On opening the peritoneum it was found that there had been an escape of a large quantity of contents of the stomach. The ulcer, which was found with difficulty, was on the anterior surface of the stomach near the lesser curvature and on the cardiac half. It was sutured with Lembert's sutures and the abdominal cavity well sluiced with sterilised water and drained with a glass tube. After the operation very little escaped by the tube, but the patient could retain nothing either by mouth or rectum and she sank twenty hours after.

In the next class of the eight herniæ four were ventral and four umbilical. They were all admitted for radical cure. Of the ventral two were in women and followed abdominal section, and two were in men due to strain. All the umbilical were in women, and two gave child-bearing as the cause. Of the thirteen cases of appendicitis there was a localised abscess found in eight. In two of them the appendix was not found, but it was removed in the remaining eleven cases. One case only died from septicæmia.

Pancreatic cyst.—The patient, a young man, stated that about six weeks before admission he fell off a waggon and one of the wheels went over his abdomen. He was very swollen and tender at first, but the tenderness passed off, leaving him still considerably swollen. On admission a swelling was found occupying the right and left hypochondriac regions and the epigastrium with the following limits: on the left the nipple line and on the right the tenth costal junction above the bony framework of the thorax and below a point half an inch above the umbilicus. It was dull, elastic, and fluctuated, and did not move on deep respiration. There was a stomach note above and an intestinal note below. It was incised, the cyst wall sutured to the skin opening, and a drainage tube left in it. It slowly contracted and closed entirely.

The case I have tabulated as lymphangiectasis of the mesentery is certainly a rare one. The history was that the man had received a blow in the pit of the stomach twenty years previously. Two years later he was seized with pain on the left size of the abdomen, and his medical man noticed a swelling, which the patient thinks had been coming on previously to this attack. It remained much the same until two months before admission, when he had an attack of diarrhœa, and the tumour increased somewhat in size. On examination the abdomen was distended particularly in the umbilical region. The liver dulness was normal and a thin narrow line of resonance was below it. Immediately below this there was dulness over the prominence extending to a little below the umbilicus. On palpation a smooth, irregularly oval, tense, elastic swelling was felt in the umbilical region, easily movable from side to side, but not vertically. The tumour did not descend on inspiration. No thrill could be detected. It was distinctly tender when manipulated heavily. An incision was made in the middle line. The mass on exposure was covered with a layer of white (caseating?) lymph. On introducing a hypodermic needle a dense, white, milky fluid was withdrawn, containing on microscopic examination fat globules and innumerable granules. On standing the fluid coagulated. The tumour was incised and found to consist of numerous dilated lymphatics filled with this milky fluid. It was drained and the remainder of the wound sutured. It gradually contracted and healed. The two cases of obstructive jaundice were both under the care of Mr. Arnison. Diagnosis of gallstones was made in each case, but exploratory laparotomy revealed carcinoma of the head of the pancreas. In the one case cholecystenterostomy was done, Allingham's bobbin being used; in the other the abdomen was closed. The first patient lived for a week or two, but died from the disease, and the second was discharged unrelieved.

The cases of kidney surgery are shown in Table IV. The second case was a difficult one. The patient showed signs of peritonitis two days after the operation, and a week after a fæcal fistula formed in the anterior part of the wound, a fatal result following. In both the cases of suspected stone the kidney was incised, the finger passed in and the whole of the organ palpated between the finger inside and the thumb outside, with a negative result. They recovered from the effects of the operation without a bad symptom.

In Table V. the uterine cases are given. The chief interest in this section lies in the cases of uterine fibroids, and excluding the case of pedunculated fibroid, which was easily removed, the patient, however, dying some weeks after from exhaustion, we have six cases with three recoveries, and in one of these the pedicle was treated extra-peritoneally, so that with five cases of intra-peritoneal treatment of pedicle there were only two cases of recovery. (This is a great contrast to the results obtained in vaginal hysterectomies for epithelioma of the cervix. During the six months five of these have been performed and all recovered.) Of the two who recovered one patient was suffering from mitral regurgitation with anasarca, yet she did well. The other patient failed so much that the day after the operation intravenous injection of normal saline solution had to be resorted to with great immediate benefit. Unfortunately, however, she developed lymphangitis of the arm and shoulder which retarded her convalescence. In three of the fatal cases some signs of peritonitis were found at the post-mortem examination, but the fourth patient died apparently from shock, as nothing was found.

The diseases of ovaries and tubes which I have grouped together are classified below.

TABLE VI.—*Cases of Disease of the Ovaries and Tubes.*

Nature of Case.	No.	Recoveries.	Deaths.	Remarks.
Ovarian cyst	14	11	3	—
Cystic ovaries	4	4	0	—
Diseases of tubes	8	8	0	—
Tuberculous ovary ...	1	1	0	—
Solid ovarian tumour ...	1	1	0	—
Extra-uterine fœtation	1	1	0	—
Total	29	26	3	—

The causes of death in the three cases of ovarian cyst were as follows: In the first case the pedicle-ligature unfortunately slipped and the patient sank from the hæmorrhage. The second was a suppurating ovarian cyst with a gangrenous cyst-wall and the third was malignant.

The most interesting case amongst the diseases of tubes was one of double pyosalpinx, which showed well the great value of intravenous injection of normal saline solution. At the operation both tubes were found to be very distended and closely bound down with adhesions. In trying to separate these they burst and stinking pus escaped; the peritoneal cavity, however, being well packed off the pus was absorbed by the sponges. When after great difficulty the tubes were removed there was a good deal of oozing from the sites of the torn adhesions. A Keith's tube was introduced. She rallied well, although a good deal of bright red blood was escaping by the tube, and kept well for twenty-two hours, when she began to collapse. Her temperature was 98·6 F., the pulse was imperceptible at the wrist, the facial expression was drawn and anxious, the lips were intensely pallid, and she looked at the point of death. The median basilic vein was opened, and three pints of normal saline solution was injected at a temperature of 112° F. The pulse at once became regular and steady and could be easily counted. A quarter of an hour afterwards she vomited some bile-stained fluid, and this was followed in half an hour by a rigor, attended with moderate sweating. The temperature rose to 102·8° and continued rising until it reached 104°. Four hours after the transfusion the temperature was 100·2°, the pulse had fallen from 160 to 115, and she said she felt that new life had been put into her. She gradually rallied and made a good recovery.

Of the four bladder cases two were suprapubic cystotomies, one for calculus and one for villous growth, and two were ruptured bladder. In the first case there was a fracture of the pelvis with a rent (extra-peritoneal) in the anterior wall of the bladder. It was drained and the patient made a good recovery. In the other case the man was thrown from a

[1] THE LANCET, May 23rd, 1896.

horse and impaled on an iron railing. The spike entered the anus, tearing that and piercing the anterior wall of the rectum and the posterior wall of the bladder. An attempt was made to reach it through the abdominal wall, but failing, a free opening was made through the perineum and the rectum, but the patient never rallied.

The case tabulated as abscess was most curious, but I am not quite sure whether it ought to be included in abdominal surgery. It is that of a man aged forty-six years who was admitted with a sinus in the upper part of the right thigh, which he said had been discharging for years. On probing it something hard was felt, and on laying it up this was found to be a pin. A day or two after its removal fæces began to appear at the wound, but this gradually ceased and the wound healed. Evidently the man had swallowed the pin and it had found its way through the intestinal wall at some point. The fæcal fistula appeared some weeks after an operation for tuberculous peritonitis. Laparotomy was performed, the adhesions of the bowel were separated, and the opening was closed with two rows of Lembert's sutures. An uninterrupted recovery followed.

The two cases tabulated as exploratory were both interesting. The first was the case of a girl aged twenty years with an absence of uterus and a rudimentary vagina. She was found to have a normal right ovary and tube, with a small knot of tissue deep in the pelvis. Nothing was done. The other case was a woman aged twenty-three years, who was admitted with a history that a fortnight previously she was lifting some hay and felt something give way in her abdomen on the right side. She vomited blood and came out in a cold sweat. After this she had continuous pain in the right hypochondriac and lumbar regions and was forced to keep to her bed. The abdomen was distended and there were marked tenderness and rigidity in the right hypochondriac region. Laparotomy revealed nothing abnormal but a large liver, so the abdomen was closed. For two months she lay with an intermittently high temperature and hectic symptoms, but nothing definite could be found. Abscess of the liver was suspected and found, and an attempt made to drain, but the patient died on the table. At the necropsy abscess of liver was found and there was thrombosis of part of the inferior vena cava in the liver and common iliac veins. There was nothing to show the seat of infection.

In collecting this series of cases my great difficulty has been to tabulate them in as useful a manner as possible. I feel conscious that my method is open to severe criticism, but my only excuse is that I could not find a better way out of the difficulty. The cases that appeared to me particularly interesting I have given brief notes of, but I have had to omit many or the paper would have run to an inordinate length. I have also omitted any remarks on them, as that would be outside my province as surgical registrar. I may say that with regard to intestinal anastomosis Dr. Hume has given up the use of any bobbin or bone plate, preferring immediate suturing; Mr. Page, on the other hand, uses Allingham's bobbin only, which he thinks gives the best results and takes the least time in application.

Newcastle-on-Tyne.

LOCAL HOT-AIR TREATMENT IN RHEUMATISM AND ALLIED AFFECTIONS (TALLERMAN-SHEFFIELD).

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PHYSICIANS have shown a marked tendency of late to treat many complaints by what may be termed local or external methods, in contradistinction to treatment by the exhibition of drugs and internal remedies. Even many cases of heart disease are now much improved, if not occasionally cured, by regulated exercises and baths (Schott treatment). In many cases this improvement has taken place without the assistance of drugs of any kind. Undoubtedly many heart cases which had failed to show any permanent benefit by a carefully regulated course of internal medicines have been greatly improved by the Schott treatment. It is not wished in any way to depreciate the value of internal remedies, which still prove of great use when combined with external methods; but the object of this paper is to emphasise the fact that the external method is often the most powerful and effective means of dealing with disease. Rheumatism in its various forms has from times of ancient history been treated by external applications, such as blisters, cupping, leeches, hot sand, friction, warmth, and more recently by massage, electricity, and the like. A large number of baths and moist hot-air methods are at present in vogue; in fact, every fashionable health resort has its own particular kind of charm in the form of a bath, with or without an electrical current. But the one feature which at once appears fatal to satisfactory results is that in all forms a moist and not a dry heat is applied to the affected part. As the result it is impossible to obtain a really high temperature, as moist heat of from 115° to 120° F. is unbearable, and much above this produces scalds. So with all these older methods what seems to be the important element in the treatment—namely, heat of from 200° to 300°—cannot be applied, or at any rate not for a sufficient length of time.

The dry hot-air method about to be described was first brought under my notice in August, 1894, when an apparatus was supplied to the North-West London Hospital and left for the use of the staff. I have tried the treatment in a large variety of cases ever since and now wish to publish some of the results. This period of two years has enabled me to form a definite opinion that the value of the treatment is not merely a temporary one, but is of a more or less permanent nature. The "Tallerman-Sheffield localised hot-air apparatus"[1] consists of a copper chamber, generally cylindrical, of various shapes and sizes, so that the hand, elbow, the arm, whole or in part, and with the lower extremity the foot, knee, thigh, or even the pelvis, can be inserted and treated locally, as previously described in THE LANCET of Jan. 12th, 1895. The contained air is prevented from becoming moist and is maintained in a dry condition during the whole time the treatment is being administered. The temperature is varied at will, and either raised or lowered as the comfort of the patient or the exigencies of the case may require. The temperature is indicated by a thermometer, the bulb of which is passed into the chamber to the level of the part under treatment, and the scale is read on the outside. It is possible to admit medicated vapour, and to detect any increase of atmospheric pressure in the chamber. The heating agency used is gas or oil, as is convenient. The difficulties of suspending or resting the part during the treatment have been met by an arrangement of asbestos, which in no way interferes with the free circulation in the limb or of the superheated dry air around. The patient, suitably clad in flannel to encourage free perspiration and prevent too much radiation of heat from the body, whether seated on a chair or lying in bed, suffers no inconvenience or discomfort from the high temperature. The treatment lasts usually from fifty minutes to an hour, and it is to this prolonged application that the therapeutic effect to be described is to my mind mainly, if not solely, due. When the part is first put into the chamber the temperature is usually about 150°, and this is gradually raised to 220°, and thence upwards, in some cases to as high as 300°. When the treatment is required to act quickly as an anodyne the temperature is rapidly raised to 260° or 280°. But under ordinary circumstances such as those described below it is gradually raised and a general free perspiration breaks out over the whole body; at the same time the body temperature is temporarily raised from a half to three degrees, a physiological effect hitherto regarded as impossible to be obtained. Also the pulse increases in frequency and to a less marked extent the respiration. A few minutes after the operation is completed the pulse, respiration, and temperature return to the normal or previous condition. Usually about an hour after the pulse is found to be slower and stronger than it was before treatment; this was especially noticed in some cases of weak and enfeebled hearts. In cases accompanied with much pain this is almost at once relieved, and under the influence of the heat the parts soon become more lax and supple. When the limb is first removed there is often a transient erythematous blush. After the bath the whole body is briskly and lightly rubbed down with a dry towel and the limb sometimes gently massaged with olive or other oil. The

[1] Inquiries respecting the above-mentioned apparatus should be addressed to the secretary, Mr. M. St. B. Prichard, at the offices of the proprietors, 1 and 2, Chiswell-street, Finsbury-square, London, E.C.

patient then waits until quite cool before going out of the room in order to avoid the risk of a chill.

It will be seen that this method differs materially in the following points from a Turkish bath. 1. The temperature is higher. 2. The application of this temperature is continuous for nearly or quite an hour. 3. The patient breathes the air of the room and not that of the heated chamber. 4. The application of the heat is only local, the most affected part being treated. It may here be remarked that this local treatment has a general effect, and it is evidenced by the result that, although the particular part treated receives the greatest benefit, other parts of the body affected, but not actually immersed in the chamber, also much improve both with regard to pain and to increase of movement. 5. The treatment does not tend to produce cardiac depression even in the very feeble, or those conditions of exhaustion which are in some cases apt to occur when heat is applied to the whole surface of the body and at the same time inspired. A Turkish bath is less stimulating in its effects, and this local treatment may be confidently recommended in cases in which the former would be quite out of the question. 6. The portable character of the apparatus enables it to be taken to the sick-room and used by the bedside in cases where it would be impossible to move the patient. 7. The local bath gives far more successful results as a method of treatment.

The following cases are briefly described in the order in which they came first under my treatment at the hospital, not necessarily in the order in which they were subjected to the hot-air method. Many were for some time previously treated by the ordinary drug routine, and only after failure by this were they submitted to the new one. If there has been any selection of cases it will be at once apparent that it has been on account of their chronicity or severity. Most of the notes are taken from my hospital notebook made on the dates as reproduced and with regard to symptoms more or less in the patient's own words.

CASE 1. *Arthritis deformans; duration four and a half years.*—In January, 1894, a single woman aged sixty-four years came under treatment. The patient's father died at the age of sixty-six years from bronchitis; a sister, since dead, suffered from rheumatism. The patient had suffered from bronchitis for twenty years. About four years ago she had a good deal of trouble and then influenza, and ever since this time she had suffered from rheumatism, which came first in the ankles, then in the knees, and finally in the hands. This had gradually become worse. There was no cardiac murmur, but there was a good deal of general bronchitic rhonchi. She had been under private treatment and had been attending University College Hospital for four months and then came to the North-West London Hospital, at which place she attended regularly from January till August, when the baths were first tried. During this time the following drugs were prescribed in the order given: colchicum, salicylates, iodide of potassium, guaiacum, gentian and rhubarb, salines, strychnia and iron, salicin, antipyrin, exalgin, and lithia, together with various liniments, &c., but nothing seemed to give the patient any relief from the constant pain or produced any amelioration of the gradually progressing disease; in fact, she was daily becoming worse and more crippled. On Aug. 4th, 1894, the following note was made: "All the finger-joints of both hands are now greatly enlarged, very painful, and tender; there is hardly any movement of the fingers and the patient is quite crippled and unable to use the hands at all, it being impossible to close or separate the fingers. The movement of the wrists is also very limited and any attempt at flexion causes great pain. The right elbow is fixed at a right angle. Both the knees and shoulders are enlarged and painful, with very distinct grating and considerable disorganisation of the joints. The patient is very anæmic and looks ill and worn out with constant pain. She cannot dress or even feed herself, being unable to get her hands to her mouth." On Aug. 10th the medicines were stopped and the hot-air treatment commenced. After the first bath the patient said she had less pain than she had had for months; the joints showed some improvement, the fixity not being quite so complete. After the fourth operation the patient, who for a year and a half had not been able to do any work, was again able to use her needle a little. After the fifth bath the right arm could be fully extended without pain, and with a little assistance all the fingers could be flexed on the palms. The left hand, although it had not yet been placed in the cylinder, also showed considerable improvement. On Aug. 24th after the ninth bath the patient reported that she had resumed her former occupation as a dressmaker, and was able to walk up and down stairs with comparative ease and without pain. On Sept. 9th the patient had had twenty baths and considered herself practically cured, but as the apparatus was still at the hospital she had an occasional bath up to the end of October, 1894. From this time to November, 1895, she continued at her work, and although she had some other ailments (uterine) she suffered no inconvenience from the joint affections. At this time she again complained of some stiffness and pain in the right hand, so three more baths were prescribed and she again rapidly recovered and continued well for some months. On July 2nd, 1896, she has had an occasional bath recently and is practically well. All the movements of the fingers are quite free, and the joints, which were formerly considerably enlarged, are now but very slightly swollen. On July 20th the patient was suffering from headaches, but otherwise she continued to be quite free from pain. She stated that her bronchitis was better than it had been for many years, and the patient had continued uninterruptedly at her work since August, 1894.

CASE 2. *Sub-acute articular rheumatism; aortic regurgitation; psoriasis.*—On Sept. 10th, 1894, there was seen a married woman aged nineteen years, with two children. The patient's father was living, but suffered from chronic rheumatism and bronchitis. No other family history of importance was elicited. She had had psoriasis on the knees and elbows since seven years of age, but she had never been treated for it. She had rheumatic fever at fifteen years of age and again at eighteen and a half years, complicated with heart disease. She now had a sub-acute attack of rheumatism, with much pain, especially in the right shoulder and the left knee and leg. She looked ill and had an aortic diastolic murmur; the heart was not much enlarged. Salicylate of soda was prescribed and continued to Oct. 4th. Not making much progress, and the patient still suffering much pain and inconvenience, the hot-air treatment was tried, the salicylates being omitted. On Oct. 4th the right shoulder was placed in the cylinder and the next time the left leg. On Oct. 16th the pain had nearly all gone, and she was able to run to catch the tram, a thing she had been unable to attempt for weeks. On the 22nd all pain had gone; the psoriasis appeared to be slightly more extensive. On the 25th she had had six baths at a temperature of about 220° F., the duration of each being forty minutes. The heat brought out an irritable eruption, which, however, soon subsided. On Nov. 11th she had been quite free from rheumatism since the previous date. After this she was for a time under the care of an obstetric physician for some uterine displacement. On Nov. 7th, 1895, there had been no more rheumatism. The patient was rather anæmic; the condition of the heart and the psoriasis were much the same. The pulse was 90. Strychnia and iron were prescribed. On July 23rd, 1896, the patient said she had her third child in May; she was very ill during the greater part of the pregnancy. She was now very pale and worried, the infant being ill. The psoriasis was possibly not quite so extensive as it was formerly. The pulse was 88. The condition of the heart and the aortic murmur had not changed. She had much dyspnœa on quick movement. No more rheumatism had occurred. She was given strychnia and iron.

CASE 3. *Chronic rheumatism; duration eight years.*—The patient, an unmarried woman aged sixty-one years, came under notice on Oct. 29th, 1894. She had had two attacks of rheumatic fever some years previously. For the last eight years the fingers, especially of the right hand, had gradually become stiff. She continued at her work till a recent date, when the pain and stiffness appeared in the right shoulder and she was unable to raise her arm, and so was discharged. The right shoulder was very painful and more or less fixed; the right leg was also swollen and painful. There were considerable deformity of the hands and enlargement of the middle phalangeal joints and bones. She was given an alkaline gentian mixture. On the 30th the right hand was placed in the hot-air apparatus. On Nov. 11th the patient had had two baths, the right shoulder was much freer, and there was less pain. (She did not come to the hospital again, and I have been unable to find out what became of her.)

CASE 4. *Arthritis deformans; duration eight years.*—The patient was a married woman aged sixty-nine years, and she came under observation on April 22nd, 1896. Her father suffered from rheumatism and died at the age of ninety-seven years; her mother died, aged fifty-one years,

from hernia; she also suffered from rheumatism. Four brothers and three sisters had died from old age; of these one brother and one sister were rheumatic subjects. The patient was the youngest of her family; she had had one daughter, who died in an asylum at the age of thirty-nine years. The patient had suffered from rheumatism and bronchitis on and off for the last eight years, but was especially worse in the winter. There was no cardiac murmur. The hands were especially affected and greatly deformed. All the fingers were enlarged and very painful; for eight months she had been unable to use them for anything, although she had been all this time under medical treatment. The knees and ankles were also stiff and swollen and she had great difficulty in getting about. On the 22nd the right hand was treated with the hot-air bath, and she was photographed before and after the bath to show the improvement. By May 21st the patient had had fifteen baths and had very considerably improved: she was then able to flex her fingers and had free movement of the arms and shoulders. The knees and ankles were both much less swollen and painful. Her cough and general nervous condition had much improved. By the 26th she had had seventeen baths, was able to touch the tips of all the fingers with the thumb, and had done some needlework. By July 1st the patient had had twenty-four baths. The hands were quite free and comfortable and she could do anything with them. There was still a good deal of pain in the left foot and ankle; the varicose veins of this leg were rather prominent; there was also a small and very painful ulcer over the back of the lower part of this leg, which was œdematous. As she was unable to lie up at home, she was taken into the hospital and remained till the ulcer had healed on July 22nd. She was then quite free from pain except in the left leg, which still kept swollen, notwithstanding her three weeks' rest. She complained of general weakness from lying in bed, and some strychnia and iron were prescribed and she left the hospital. On Aug. 6th she had much improved in general strength and had had no more pain in the hands, the movements of which were quite free and comfortable. She still had pain in the left leg from the varicose veins, which prevented her from getting about.

CASE 5. *Arthritis deformans; duration thirty years.*—On June 2nd, 1896, a woman aged fifty-one years came under treatment. Her mother died aged eighty-two years after being for six years confined to bed with rheumatism. The patient had never been seriously ill, but she had had a mild attack of rheumatic fever when she was twenty years of age, lasting about a fortnight, and she had suffered from rheumatism on and off ever since. The pain had been especially in the knees and hands. Two years ago she had an injury to the left knee from a fall. Since January of this year the pains had become much worse and had prevented her following her occupation. She had been under the care of several medical men, and, getting no better, she was recommended by her medical attendant to come to the hospital. The hands, shoulders, and knees were especially affected, being much swollen and very painful; the patient suffered a great deal of pain and was unable to do any work. She could only get about with the greatest difficulty on account of the pain and swelling in the knees. There was no cardiac murmur, but the sounds were rather feeble. She was given salicylate of soda and digitalis for the pain. Until the 17th the patient had been gradually getting worse and was then unable to raise the right arm or to close her hands, and could only walk or rather drag herself about with the greatest difficulty. On the 19th the first bath was given, the right arm being placed in the cylinder. She was photographed before and after the operation. By the 23rd the patient had had three baths, and there was considerable general improvement, the pain and stiffness having quite left the hands and arms. On July 2nd there was no pain in the hands or arms, but the legs, especially the left knee, continued weak and painful, keeping her awake at night. She was put on guaiacum and an opium pill at night. On the 10th she had her tenth bath, and with the exception of the knees was comfortable. The fact that the patient lived on the top of the house and had several flights of stairs to mount, was very detrimental to the progress of her case, so she was admitted into the hospital on the 23rd of July. She felt much better and only had very occasional pain in the hands. On Aug. 4th the knees had become better, but great difficulty in standing still continued; there was slight pain in the hands first thing in the morning, otherwise these were quite comfortable. The temperature was usually between 99° and 100° F. Strychnia and iron were administered, and the knees were strapped with Scott's dressing.

CASE 6. *Chronic rheumatism, duration ten years.*—The patient, who came under treatment on June 6th, 1896, was an unmarried woman aged fifty-nine years. Her grandfather on her mother's side died aged eighty-two years; her father died aged forty years from a "chill"; her mother died aged seventy-six years, and suffered slightly from rheumatism; two sisters and two brothers died from phthisis at the ages of nine, fifteen, seventeen, and twenty-four years respectively; and another sister died from cancer of the breast aged thirty-six years. The patient had congestion of the lungs when twenty years of age and had suffered slightly from bronchitis ever since. She had a mild attack of rheumatic fever when aged thirty-eight years, which was followed by some left hemiplegia, from which she soon recovered. She had rheumatic fever again when fifty years of age and another severe attack when aged fifty-two years. At that time she was in bed for five months and the heart was said to have become affected. She had been a constant victim to rheumatism ever since that time, the pains being especially severe in the legs and feet. The patient had been obliged to walk with a stick for many years. There was no cardiac murmur, but the first sound of the heart was not clear. An alkaline mixture was prescribed. On July 20th, not getting any better, she was ordered a hot-air bath. After the first bath all the pain had gone; she was rather tired the following day. On the 23rd she was much stronger, the movements were freer, and she slept better. On the 24th there was a slight return of the pain in the left knee and toes and a second bath was administered. On the 27th she had had some pain all over her, but this became better. After the third bath she could walk much better and could put her foot flat on the ground, which she had been unable to do for many years on account of the contraction of the toes. On the 29th there was some return of the pain, which was relieved by another bath. On the 30th the patient reported herself well.

CASE 7. *Chronic rheumatism.*—On June 15th, 1896, a married woman aged sixty-one years came under observation. Her father's mother suffered from rheumatism. Her father died at the age of forty-nine years from asthma. She had three brothers and three sisters living and well, and had lost three brothers and two sisters, probably some of them from phthisis. The patient had had six children, and her eldest daughter suffered from rheumatism. The patient had never been confined to bed, but about a year and a half ago she suffered from rheumatism in the knees and other joints, and this had continued ever since. For the last six months it had been getting worse. She had now to be up some hours in the morning before she was able to use her hands even to dress herself. There was no cardiac murmur, but the pulse was rather small. All the fingers and hands were swollen and painful; there was marked wasting of the muscles on the back of the hand. She was given mistura guaiaci. On July 6th the patient was becoming worse; she was unable to raise the left arm and the metacarpo-phalangeal articulations of both hands were more swollen and tender. On the 21st the first bath was given. The left shoulder was very stiff and the arm could only be raised a very little and she was unable to close the hand. The pulse was very small and feeble. The right arm and hand were placed in the cylinder, and after a short time the pulse much improved in character and in fifty minutes the left arm could be fully extended and the hand closed without much difficulty. On the 24th there was still some pain in the left shoulder, but otherwise she was very much better. On the 27th she had had four baths and was able to do a little work. On the 30th she had had six baths. All the pain had gone from the hands and the right shoulder, but she had occasional pain in the left shoulder when in bed and the first thing in the morning. Strychnia and iron were prescribed. On Aug. 6th all the movements of the fingers, hands, and arms were quite free, there was still some pain, or rather what she described as "numbness in the muscle" of the left arm; she slept well.

CASE 8. *Sub-acute rheumatism; mitral regurgitation.*—On July 9th, 1896, a married woman aged thirty-two years was seen. The patient's father suffered from rheumatism for many years. She was the youngest of six and the only one who was rheumatic. She had rheumatic fever when sixteen years old and was then in St. Bartholomew's Hospital for about sixteen weeks. After this she was free from rheumatism till two years ago, when she had two attacks of inflammation of

the lungs, followed by a mild attack of rheumatic fever, with which she was laid up for three weeks; after this she went to Buxton. She felt better on her return and kept well till July 6th of this year, when she woke up in the morning with pain in the feet and legs, and then it extended to the arms and shoulders and she became quite crippled. The patient was anæmic, the pulse was 120, and there was a faint systolic apex murmur. Salicylate of soda and digitalis were prescribed. She continued under treatment, but was not much better on July 20th; there was still a good deal of pain. The salicylates were stopped and strychnia and iron prescribed. On July 21st the first bath was given. She could not raise the left arm or close the hands, she had had but little sleep at night for more than a week, and she was very depressed in herself. After the first bath the arm could be fully extended over the head and the hands clenched, and all pain and feeling of depression were gone.

FIG. 1.

Case 11, taken July 16th, 1896, before treatment, shows limit of patient's ability to move. This is the highest point to which the limb could be raised, and the movement was accompanied by pain.

On the 23rd she was able to walk home after the first bath, a thing she had not been able to do since the commencement of the attack. She had now had two baths, was quite free from pain, and also felt much better in herself. On the 24th there was some return of pain in the left shoulder; she attributed it to having slept in a draught and having eaten meat the previous day for the first time. After another bath the pain again was all gone. On the 27th she had a return of pain generally. Salicylates were again prescribed. On the 30th the pain had all gone except a little in the left shoulder. Strychnia and iron were given, and salicylate of soda at night. On Aug. 6th she felt much better, the pulse was 80, she slept well, but still had slight pain in the shoulder. (This case is still under treatment.)

CASE 9. *Lumbago and sciatica; duration six weeks.*—On July 9th, 1896, a man aged twenty-six years came under observation. There was no family history of rheumatism, but there was phthisis on his father's side. The patient had had hip-joint disease and excision was performed on the right side when he was eighteen years of age. He had now had sciatica and lumbago for six weeks and was prescribed an alkaline mixture. On July 16th the pain was much the same. On the 20th the right leg was placed in the cylinder, after which the pain was much better. On the 21st the bath was repeated with a completely satisfactory result. On the 23rd the patient had had no pain since the last bath. On Aug. 6th he continued to be quite free from pain and had returned to work.

CASE 10. *Chronic rheumatism; duration six months.*—A man fifty-nine years of age was seen on July 16th, 1896. For six months he had suffered from persistent pain in the right shoulder, which prevented him following his occupation, as he was unable to raise this arm above the horizontal. The pain was worse at night and kept him awake. On

FIG. 2.

Case 11, taken July 20th, 1896, shows patient's ability to move after the third bath. It is a return to the normal. No pain.

April 15th he went into the Greenwich Infirmary, where he remained till June 2nd. When he came out he was a very little better. On July 16th he appeared to be in pain and unable to raise his right arm above the horizontal. A hot-air bath was given. On the 22nd he had had three baths. He reported that he had had much less pain and had been able to do some work. He had slept much better.

CASE 11. *Sciatica; duration seven months.*—The patient was a man aged fifty-six years, who came under observation on July 16th, 1896. His father, who died aged seventy-five years, suffered from "rheumatic gout." The patient's brother also suffered from rheumatism. The patient had had "rheumatic gout" in his toes when twenty years of age, and had had muscular rheumatism occasionally ever since, but never very severely. He was in St. Thomas's Hospital for thirteen weeks in 1887 with nephritis and dropsy and afterwards was an out-patient. For the last seven months he had

had sciatica in the right leg which had prevented him following his occupation. He was under a private practitioner for five weeks and then became an in-patient in University College Hospital for a fortnight, but derived very little benefit; he had been attending as an out-patient till three weeks previously, but had gradually become worse. There was no albumin in the urine. He could walk a little, but with great pain and difficulty, and was able to raise the right leg but a few inches off the ground; there was much tenderness over the course of the sciatic nerve on pressure. On the 16th the right leg and part of the thigh were immersed in the cylinder for an hour at a temperature of 240° F. He was photographed with the leg raised as high as possible before and after treatment. The pain was much relieved and he slept well that night, which he had not done for weeks. On the 17th the patient walked nearly five miles for treatment without much difficulty, and the hip was placed in the apparatus for forty-five minutes at a temperature of 250° and the patient felt much better afterwards. On the 20th, after the third operation, he reported that there was a little pain above the right knee, the rest of the pain had quite gone, he could kneel, and he slept well. The treatment was stopped. On the 28th the patient had had no more pain, he had walked without a stick for the first time for six months, and he could flex the right thigh as high as the left. There was some stiffness about the knee, probably from having walked with a stiff joint for so long

CASE 12. *Neuralgia following herpes.*—The patient, who came under notice on July 13th, 1896, was a woman aged sixty-five years. She was stated to have had influenza two years ago, which was followed by dropsy in the hands and feet, with which she was laid up for twelve weeks. Ten days previously to her coming under treatment an eruption came out over the left side of the neck, which followed three days' throbbing in this region. The case was rather a severe one of herpes, the blebs were unusually large and confluent over the left side of the neck, extending on to the face in front of the ear, up behind the ear just into the hairy scalp and slightly over the clavicle. She was given some starch and boracic powder to dust on and a quinine mixture to take internally. There was albuminuria. On the 20th she was going on well, the eruption having nearly disappeared. On the 27th it was noticed that for the previous five days the patient had suffered severe neuralgic pain all over the region of the eruption; this had prevented her from sleeping at night; she was apparently in great pain and much depressed, and was crying. On the 28th the pain was just the same. The left arm up to the shoulder was placed into one of the hot-air cylinders. In forty minutes all the pain had gone and although some returned the same evening she had a very fair night. On the 29th there was still some pain, but not so bad; the bath was repeated, during which process the pain again quite disappeared. On the 30th there had been little or no pain since the bath on the 29th, and the patient felt much better and had had a very good night's rest. On Aug. 6th there had been no return of the pain.

CASE 13. *Sciatica.*—On July 27th, 1896 a man aged fifty-one years came under treatment. He was a native of the West Indies. He had attended the Royal Free Hospital for debility a year previously and had suffered from pains in the back and thighs since. Fourteen days before he had had a sharp attack of sciatica on the right side, and after a week he was compelled to give up work. He rubbed the part with embrocation, which had taken the skin off without giving any relief from the pain. An alkaline mixture and aperient pills were prescribed. On the 28th the pain being no better the patient was put into the hip-bath cylinder, after which the pain was much less. By the 30th he had had two baths. All the pain had gone from the hips and thigh, but there was still some pain in the front of the right tibia. On the 31st there was no return of pain in the thigh, but some in the lower part of the right leg. Another bath was given, and this time the right leg was put into the cylinder, after which the pain quite disappeared.

It must be admitted by those who have had much practical experience of severe cases of arthritis deformans such as cases Nos. 1, 4, and 5, how very hopeless these have generally been considered and what little chance of permanent good medical treatment offers, that this treatment by hot air at a very high temperature meets a general want. I must add I have never seen results so immediate and satisfactory produced by any other treatment. It is now two years since treatment by the local hot-air bath was commenced in the first case and yet the patient continues comparatively free from the complaint and even the deformity of the fingers has greatly disappeared. Very intractable cases of sciatica such as Case 7 usually pass into the hands of the surgeon, who performs nerve stretching, often with very little good result. It seems likely that these cases will likewise in future be cured by this less drastic means. Another possibility of much importance may be the prevention of many cases of the morphia habit. Judging from the general physical improvement that all of the patients showed after undergoing treatment it would appear that this method will be found beneficial for cases of chronic bronchitis and for some cases of chronic heart mischief. Many of the patients have stated that their bronchitis was better than it had been for years. I possess also evidence of the undoubted value of this hot-air treatment in acute and chronic gout and hope shortly to publish a series of cases.

With regard to the physiology of the processes. Locally—(1) the heat produces dilatation of all the cutaneous vessels and free circulation through the parts—it is impossible to say how deeply into the tissues this extends, but from the results it may be judged to be some distance—and at the same time there is a marked stimulation of the nutrition of the cutaneous nerves; (2) there is free perspiration of an acid sweat; and (3) relief from pain, however produced, is almost at once apparent. Generally—(1) there is profuse perspiration and dilatation of vessels; (2) increase of the rate of the pulse and force of the heart's action; (3) increase (slight) of the respiratory movements; and (4) an increase in the body temperature often of two or three degrees Fahrenheit. The treatment appears to lower the blood pressure of the body, and in some way to increase the alkalinity of the blood which enables it to dissolve the uric acid from the tissues and joints and get rid of this substance through the various excretory organs. This is evidenced by the relief from local pain and the removal of the frequent uric acid nerve depression. Hence the treatment is of a tonic nature and bestows an increased general vitality upon the patient.

So far, although it is now two years since this new treatment was brought under my notice and tried by myself, I am not cognisant of any unsatisfactory result following it, notwithstanding the fact that many of the cases have not been very promising ones to do much with; many were old and debilitated people, and in some cases the objective disease was attended by heart and other visceral complications. And what is of all importance with regard to satisfactory treatment, the patients were in every case treated as out-patients and so there was no control over their habits. In a clinical lecture delivered at St. Bartholomew's Hospital, in which this new treatment was first introduced to the profession in this country, the lecturer described it as one that was "not only quite painless," but might be "almost called that of luxurious ease." My experience fully confirms the soothing effect in this process of relieving disease accompanied with pain. Patients worn out through prolonged suffering will frequently, if permitted, fall asleep whilst under the operation. One of the most important therapeutic effects is the sleep which usually follows the treatment, particularly in cases of patients who have been prevented by pain from getting any rest for long periods.

It does not come within the province of this article to enter into the various surgical conditions in which this treatment has been found efficacious. Papers on this subject have already been published by Mr. Willett in the above mentioned lecture;[2] in "The Deformities of the Foot," by Mr. W. J. Walsham; in an article by the same writer in the Transactions of the American Orthopædic Association, 1895; and also reports of cases treated at the North-West London Hospital which were published in THE LANCET of Jan. 12th, 1895. At the present time the above cases may be of interest to those engaged in this treatment and to those anxious to try it. Undoubtedly the writer's experience points to the conclusion that the chronicity of a case is by no means a bar to a successful issue. With regard to rheumatoid arthritis many forms of rheumatism with chronic joint mischief, sciatica, lumbago, and one might add some cases of neuralgia, neuritis, and chronic bronchitis, there can be no question as to the great benefit of the treatment. The record of the remarkable results previously published obtained by this apparatus at the

[2] Clinical Journal, May, 1894.

North-West London Hospital[3] alone embraces such a wide field that this localised hot-air bath must be reckoned upon in the future to play an important part in the relief of pain and the cure of disease. Especially is it likely to prove of great use in those forms of very chronic disease which have hitherto yielded but little to any known medicine, the sufferers from which are commonly sent in search of continental hydrothermic establishments, and usually, sooner or later, fall into the hands of the quack.

Table giving particulars of Cases.

No. of case.	Date.	Pulse before bath.	Temperature before bath (in degrees Fahr.).	Pulse during bath.	Temperature during bath (in degrees Fahr.).	Temperature of bath (in degrees Fahr.).	Part treated.
1.	Nov. 11th, 1895.	72	98·0	88	99·4	240	Right hand.
	Nov. 14th, 1895.	76	98·4	90	99·6	240	,, ,,
	Nov. 16th, 1895.	76	98·2	92	99·8	248	,, ,,
	May 23rd, 1896.	80	98·0	92	99·6	240	Right leg.
	May 26th, 1896.	88	98·6	92	99·8	240	,, ,,
	May 28th, 1896.	80	98·4	92	100·0	260	,, ,,
	June 1st, 1896.	80	98·2	96	99·8	250	,, ,,
	June 4th, 1896.	76	98·2	88	99·0	250	,, ,,
2.	April 22nd, 1896.	96	99·0	100	99·6	238	Right hand.
	April 24th, 1896.	88	99·2	96	100·0	240	,, ,,
	April 25th, 1896.	92	99·0	116	100·0	250	,, ,,
	April 27th, 1896.	92	99·0	100	100·0	250	,, ,,
	April 28th, 1896.	96	99·4	104	100·0	240	,, ,,
	April 30th, 1896.	88	99·0	96	100·0	250	,, ,,
	May 1st, 1896.	92	98·6	100	99·6	250	,, ,,
	May 5th, 1896.	84	98·2	92	99·4	250	,, ,,
	May 6th, 1896.	84	98·4	94	99·2	240	,, ,,
	May 8th, 1896.	92	98·4	104	99·2	270	,, ,,
	May 11th, 1896.	92	99·0	104	100·0	260	,, ,,
	May 13th, 1896.	92	99·0	108	10·4	260	,, ,,
	May 15th, 1896.	96	98·6	108	99·6	260	,, ,,
	May 18th, 1896.	92	98·6	100	99·8	270	,, ,,
	May 20th, 1896.	92	99·0	108	100·0	260	,, ,,
	May 22nd, 1896.	92	99·0	104	100·0	260	,, ,,
	May 26th, 1896.	80	99·0	92	100·0	260	,, ,,
	May 28th, 1896.	92	99·0	104	100·0	260	,, ,,
	June 1st, 1896.	88	99·0	100	100·0	260	,, ,,
	June 3rd, 1896.	88	99·0	100	100·2	230	Left leg.
	June 5th, 1896.	88	99·0	96	100·2	240	,, ,,
	June 8th, 1896.	92	99·0	104	100·2	240	,, ,,
	June 16th, 1896.	99	98·4	104	99·4	250	Right arm.
	June 22nd, 1896.	92	99·0	108	100·0	240	Left arm.
5.	June 19th, 1896.	78	98·4	92	100·0	220	Right arm.
	June 22nd, 1896.	78	98·4	92	100·0	200	Left leg.
	June 23rd, 1896.	84	98·2	90	100·0	220	,, ,,
	June 25th, 1896.	84	99·0	100	101·0	230	,, ,,
	June 26th, 1896.	88	98·0	92	100·8	230	,, ,,
	June 29th, 1896.	96	99·6	104	101·0	230	,, ,,
	June 30th, 1896.	92	99·2	100	100·6	240	,, ,,
	July 1st, 1896.	88	98·0	96	101·0	240	,, ,,
	July 3rd, 1896.	92	99·4	100	101·0	240	,, ,,
	July 10th, 1896.	84	98·6	102	99·4	220	,, ,,
6.	July 20th, 1896	70	98·0	88	99·2	230	Left leg.
	July 24th, 1896	76	98·4	84	99·0	220	,, ,,
	July 27th, 1896	72	98·0	88	99·2	230	,, ,,
	July 29th, 1896	76	98·6	88	99·4	200	,, ,,
7.	July 22nd, 1896	88	98·2	92	99·2	240	Right arm.
	July 24th, 1896	92	98·6	100	99·6	240	Left ,,
	July 27th, 1896	88	98·0	100	99·6	260	,, ,,
	July 28th, 1896	88	98·6	96	99·6	230	,, ,,
	July 29th, 1896	80	97·6	92	99·2	230	,, ,,
8.	July 21st, 1896.	88	97·2	100	100·0	240	Left arm.
	July 22nd, 1896.	72	98·0	88	99·2	240	,, ,,
	July 24th, 1896.	72	98·2	84	99·0	250	,, ,,
9.	July 20th, 1896.	72	98·4	100	99·2	235	Right leg.
	July 21st, 1896.	80	99·0	96	100·0	230	,, ,,
10.	July 16th, 1896.	76	97·4	—	—	240	Right arm.
	July 20th, 1896.	80	98·4	100	99·2	230	,, ,,
	July 22nd, 1896.	80	98·0	96	99·0	260	,, ,,
11.	July 16th, 1896.	76	98·4	88	99·4	230	Right leg.
	July 17th, 1896.	72	98·2	92	99·0	230	Hip.
	July 20th, 1896.	68	98·0	84	99·2	240	,,
12.	July 23th, 1896.	100	99·0	112	100·0	220	Left arm.
	July 28th, 1896.	92	98·6	100	99·4	230	,,
13.	July 28th, 1896.	80	98·0	92	99·2	250	Hips.
	July 29th, 1896.	74	98·2	80	99·2	240	,,
	July 31st, 1896.	72	98·4	84	99·2	210	,,

Note.—In Cases 6, 7, 12, and 13, and corroborated by isolated observations in several other cases, it was found that the pulse about an hour after treatment was usually slower than before the bath. Occasionally it was of the same rate, but in no instance was it found to be more rapid.

[3] See THE LANCET, Jan. 12th, 1895: Sprained ankle; Acute gout with sprain of ankle; Chronic rheumatoid arthritis; Old tuberculous knee-joint; Chronic ulcer of the leg; and Severe sprain—two cases.

In conclusion, I take the opportunity of thanking the proprietors of the Tallerman-Sheffield Apparatus for the very courteous manner in which they placed their appliances at my disposal and the facilities they afforded me to thoroughly test the method as a therapeutic agent, both at the North-West London Hospital and at their Institute in Welbeck-street. I desire also to acknowledge my indebtedness to Mr. Lewis A. Tallerman, the inventor of the apparatus, for having kindly afforded me the advantage of his personal assistance in supervising and carrying out the treatment.

Appended is a table giving particulars of the cases—namely, the number of the case; the dates on which the baths were administered; the pulse-rate before, and during, treatment; the temperature at the same times; and the temperature of the hot air and the description of the part treated. It is much to be regretted that the earlier records have been mislaid and so are only given in the more recent cases.

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VITALITY.

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IV.[1]—VITAL CHANGES IN NERVE TEXTURES.

THE penultimate and ultimate ramifications of nerve-fibres with their oval particles (nuclei) of living matter, and also the relation of these to muscle, vessels, including arterioles, venules, capillaries, and epithelial cells, may be very successfully studied in the thin membrane of the urinary bladder of the young Hyla Viridis or green tree frog, or in the membrane of the wing of a young bat. In both these tissues I have been able to trace the nerve fibres in continuity with well-defined, dark-bordered nerve fibres, to fibres of the ultimate network of extreme tenuity, many of these being less than $\frac{1}{10000}$ in. in diameter. At the angle where a delicate fibre joins the network three fibres may often be distinctly discerned, two resulting from the division of a fibre joining another at right angles, which pass in opposite directions, the third running parallel with the subdivisions.

On the arterioles of the little green tree frog ultimate nerve networks may be traced in the substance of and upon the external coat of the vessel as well as amongst the muscular-fibre cells. The contractile tissue of the latter is not connected with the nerve threads or with the oval particles of living matter (the so-called nuclei) of the nerve fibres. Nor are the oval particles of the living matter of any of the muscular fibres directly connected with any ramifications of the nerve fibres. Nor are the last embedded in, or in any way in continuity with, the contractile tissue. Even the very finest of the fibres of the peripheral network consist practically of more than one fibre, or perhaps it would be more accurate to say permit more than one nerve current to traverse them, and possibly in different directions. They exhibit no definite structure when examined under great advantages of preparation and illumination with the highest powers. The material of which they are composed is in the natural state highly transparent, always moist—in fact, contains much water. When, however, they have been long immersed in glycerine or syrup, and are slowly acted upon by weak acetic acid, fatty matters are set free. Indeed, it is in this way only as far as I know that their course and arrangement can be accurately demonstrated and the continuity between the finest fibres and the dark-bordered fibre clearly shown. The fine nerve fibres certainly do not consist of living matter, nor, as far as I have been able to make out, are they composed of any substance nearly allied to living matter. It seems to me that in all cases these fine fibres are current conductors only, formed from the living matter of which the "nuclei" consist, but undoubtedly they belong to the class of *tissues* and must

[1] Nos. I., II., and III. were published in THE LANCET of Feb. 22nd, April 11th, and June 13th, 1896, respectively

be regarded as formed material incapable of exhibiting any purely vital properties or powers. The so-called axis cylinder is much firmer and harder than any of these fine fibres. It is more resisting, not easily crushed by firm pressure between two plates of glass, and probably retains its integrity as a conductor of nerve currents throughout life. It is firm and of the consistence of fibroid tissue in some cases. It undergoes little structural change during life.

As is well known the character of the "dark-bordered fibre" is given by the thick sheath which envelops the axis cylinder, and which probably protects the current passing along neighbouring axis cylinders from being influenced by currents which at the same time may be traversing adjacent fibres. This medullary sheath is also composed of formed matter and undergoes little change save increase in thickness as the growth of the organism advances.

Not only during development and at an early age, but in the fully-formed nervous system and throughout life, a considerable proportion of living matter is invariably found in connexion with the peripheral as well as in the central nerve organs, but in a given area a much larger proportion exists in the latter. When spread over the surface of a hollow viscus, which is liable to considerable alterations in volume as its contents accumulate or are evacuated, the delicate fibres of the network, the matter of which is always moist so as to possess great mobility without derangement or damage, are so arranged that they escape pressure or stretching.

At an early period of development the masses of living matter and in some cases their nuclei are much larger than in the fully-formed state. The fibres at first appear as broad thin bands of extremely delicate tissue so diaphanous as to be distinguished only in well-prepared specimens examined with the greatest care and with excellent illumination.

In all parts of the central and peripheral nervous system, of all organisms and at every period of life, we find the greatest contrast between living and formed matter, between the active living matter that selects, grows, forms, and possesses vital movements, and the formed material which, though it performs very important offices, does not grow or reproduce itself and has no power of selection or construction, between the living matter that exhibits spontaneity—spontaneous action—and matter that may be acted upon but has no powers of self-development and the other remarkable powers by which the state of living matter is distinguished from matter in every other state known.

In papers published in the Philosophical Transactions of the Royal Society and other memoirs, as well as in lectures given between the years 1859 and 1870 and in published works, I have adduced many observations which seem to prove beyond question that the typical nerve apparatus is in all cases a closed circuit formed from the very first by the division and moving away from one another of particles of living matter, the intervening fibre or fibres being formed as the sub-divisions separated. So far as I was able to ascertain, in no case could a single terminal fibre be pointed out, though many observers held this view and I believe many maintain the doctrine of "nerve ends" to this day. As development proceeds the circuit composed of continuous fibres and particles of living matter connected with them is so arranged as to form a central and distal portion, but these are always in structural continuity with one another. The distance between the central and distal or peripheral part of the nervous system in man and the higher animals increases until the formation of the organism is complete, the distance between the several oval or stellate particles of living matter becoming greater as development advances.

New fibres are formed in connexion with the central and peripheral portion of the nervous system in the same way by the division of the particles of living matter and the gradual separation of the divisions from one another. Thus are the circuits gradually increased in number, complexity, and extent. In all cases the only active substance by which all these changes are effected and which is instrumental in the production of the nerve-current, is the living matter in connexion with the fibres, the parent masses of which existed at a period of development long anterior to that when fibres were first discerned.

Nerve currents traverse and in different directions the peripheral networks of very fine fibres, and these currents originating in a particle of living matter in any part of the central or peripheral apparatus may be transmitted to many different and distant parts. These currents, though due to vital action, are not in any sense vital—are not living.

(To be continued.)

NOTES OF A CASE OF INGUINAL ANEURYSM.

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INGUINAL aneurysm is in itself so comparatively rare an affection and the results of operation for its cure so unfavourable, as shown by statistics, that a few notes of a case which very forcibly demonstrates the complications and difficulties which occasionally arise may not be without interest.

In October, 1895, I was called in consultation to see a man aged sixty-four years, who was well nourished but flabby, with a ruddy complexion, a weak heart, an aortic murmur, and atheromatous arteries. There was no history of alcoholism or of syphilis. Nearly a year previously he had consulted his medical attendant on account of a swelling in his left groin, which was increasing in size and caused a feeling of weakness in the limb and neuralgic pains shooting down the thigh. This was diagnosed as an aneurysm, but as the patient at that time refused to lie up he was advised to take things easily, and iodide of potash was prescribed. As the swelling continued to enlarge and caused more uneasiness he finally consented to have something done, and I was then asked to see him. On examination I found a pulsating expansile swelling about the size and shape of a turkey's egg occupying the left groin in the line of the external iliac and common femoral arteries, extending from an inch above Poupart's ligament to about two inches below it. There was a marked bruit, and pressure on the common iliac artery caused the swelling to diminish and the pulsation to cease. Removal of pressure led to its filling up again with a bound. There was no congestion or œdema of the limb, but the force of the pulsation in the arteries on the distal side was markedly diminished. The swelling was evidently an inguinal aneurysm involving the lower part of the external iliac and the common femoral artery and was rapidly increasing in size. The protuberance of the abdomen, the inability of the patient to stand discomfort, and the state of the heart and arteries did not seem to render the case suitable for attempted compression of the aorta or common iliac, and I therefore recommended ligature of the external iliac. After a week of absolute rest, dieting, and large doses of iodide, I proceeded to tie the said artery by Abernethy's method, somewhat modified to suit the case, the incision being placed further upwards and outwards than is usual. The only difficulty experienced was that the pressure upwards of the aneurysm had caused the external iliac to curve down into the pelvis, from which it had to be hooked up. The walls were fairly healthy, and a chromic catgut ligature was applied about an inch and a half above the upper end of the aneurysm. Although the utmost care was taken as to asepsis the wound did not absolutely heal by first intention, but there was no fever or other untoward symptom and it was firmly healed within six weeks. The limb immediately after the operation was elevated and surrounded by cotton wadding, and by the next day colour and warmth had returned. On the second day slight pulsation in the sac recurred, and by the fourth day this was well marked, again slightly diminishing but not entirely disappearing and two months later increasing in size and becoming expansile, a slight bruit being occasionally heard. This condition continued much the same for three months, pulsation in the deep epigastric and circumflex iliac arteries being markedly felt about six weeks after the operation, and then gradually disappearing. At the end of this time the condition was as follows. The aneurysm was about the size of a plum, but tending to enlarge, expansile pulsation with occasional bruit being present; the pulsation in the deep epigastric and circumflex iliac was no longer to be felt; pressure over the external iliac made no difference, over the common iliac it caused the pulsation to cease, and over the course of the artery below the tumour it led to complete cessation of pulsation and diminution in size. It was evident that the blood-supply to the aneurysm was now mostly, if not altogether, from the distal side. Compression by means of flexion, tourniquets, weights, and elastic bands, below and over the tumour, only caused temporary cessation of the symptoms, but no permanent results, while these measures

caused much local and general irritation. As the benefits derived from the operation seemed now to have ceased and the aneurysm was again enlarging, it was evident that something more must be done. Two methods of further treatment suggested themselves as worthy of consideration—either to excise the aneurysm, tying the branches which entered it, or else to cut down on the distal side and ligature all the arteries entering it from below. As the original size and position of the swelling suggested adhesions to the peritoneum above, and to the vein on the inner side, the first method did not seem advisable and I therefore had recourse to the second, the only objection to it being the fact that the previous application of distal pressure had caused considerable irritation of the skin and induration of the subjacent parts and had thus rendered both asepsis and any operation more difficult. On Jan. 26th, 1896, I cut down on the distal side of the aneurysm at about a finger's breadth to the outer side of the line of the superficial femoral artery, this being the point where the pulsation in the arteries supplying the aneurysm was most marked, the incision being about four inches in length. The dissection was somewhat difficult on account of the indurated condition of the tissues. The superficial femoral artery did not pulsate but a ligature was applied, and somewhat deeper and to the outer side four arteries had to be ligatured each about the size of the posterior tibial—one of these was apparently the external circumflex—but still the pulsation in the aneurysm continued. I had, therefore, to seek further, and below the superficial femoral another large artery was discovered, apparently the internal circumflex or the continuation of the deep femoral. In order to expose and ligature this the superficial femoral had to be divided, another ligature being first applied. The pulsation in the aneurysm then entirely ceased. The wound was sutured and healed by first intention, with the exception of the upper angle. From this a slight sero-purulent discharge continued to exude, but everything seemed to be going on well until at the end of four weeks, when only a sinus remained, slight hæmorrhage took place. This at first seemed unimportant, and it was hoped that pressure would be sufficient to check it. It, however, occurred once or twice in the next few days, but only to a sufficient extent to slightly soil the dressings. About a week after its first appearance I was suddenly sent for on account of great local pain and rise of temperature. On examination I found at the upper part of the thigh a pulsatile and expansile swelling the size of a cocoa-nut. The skin covering it was dark purple in colour, and a clot of blood protruded from the sinus. One of the ligatured arteries had evidently given way and a traumatic aneurysm had formed. An hour later I again operated. There was nothing for it but to introduce my left forefinger through the sinus, feel for the probable source of the hæmorrhage, and with a probe-pointed bistoury lay the whole sac freely open. Profuse arterial hæmorrhage at once ensued and as soon as one bleeding point was secured with forceps another commenced, the whole of the tissues of the wound being infiltrated with blood and being of the consistence of a rotten apple. It was quite impossible to recognise any anatomical relations. In securing one bleeding point the femoral vein gave way and the wound was inundated with venous blood. Taken altogether it was as unpleasant a five minutes as could well be imagined; but finally, after apparently penetrating half through the thigh, all bleeding was arrested. As the state of the tissues and the depth of the wound precluded the possibility of ligaturing the arteries in detail, an aneurysm needle threaded with strong chromic catgut was passed round sections of tissue and these were ligatured. Primary union being impossible on account of the state of the tissues the wound was packed with iodoform gauze and allowed to heal from the bottom by granulation. This it gradually but slowly did, no bad symptoms of any kind occurring, although considerable anxiety was experienced regarding one slough, which was very long in separating and under which a large artery could distinctly be felt pulsating, but this ultimately came safely away, and on May 13th, six months after the first operation, the wound was soundly healed, with a firm depressed cicatrix, the site of the aneurysm being marked by a hard mass about the size of a walnut. When I last saw the patient on June 3rd he was walking about feeling perfectly well, except for a slight stiffness and weakness of the left leg.

The case seems to me instructive and worthy of being recorded, not only on account of the fact that full records of such cases are somewhat rare, but, also, as illustrating that, notwithstanding the difficulties, dangers, and complications which may arise in the course of such a case, the ultimate result may be eminently satisfactory.

Edinburgh.

THE POISON-BEARING FISHES, TRACHINIS DRACO AND SCORPÆNA SCROPHA: THE EFFECTS OF THE POISON ON MAN AND ANIMALS AND ITS NATURE.

BY JAMES DUNBAR-BRUNTON, M.B., C.M. EDIN.

IN various parts of the globe, and especially distributed in the tropical seas, are fish which depend on defending themselves by means of a poisonous fluid introduced in an active manner and by will into the bodies of their enemies. This mode of defence serves the double purpose of causing the death of their enemies and preserving their own existence through the hesitation of other fish to touch them. The fish so armed are, as a rule, conspicuous by form and colour, and their special organ of defence consists of spines which to them are what the tooth is to serpents. These spines may be simply a modification of existing processes, such as a prolongation of the rays of a fin or may be a special spine attached to some part of its body. These spines have a poison-gland in connexion with them. The two fish which I propose to deal with in detail in this paper are both very poisonous and are found commonly on the shores of the Mediterranean. These fish are the sea dragon, trachinis draco, having as members of the same family trachinis vipera and trachinis areneus; and the scorpæna scropha, who has as corelatives in different parts of the world, scorpæna porcus, scorpæna truslulata, scorpæna diabolus, &c. These fish are only poisonous as a serpent is poisonous—i.e., by wounding. Their flesh is good and wholesome. Though they differ widely in appearance, yet the poison produces the same effects. Before, however, proceeding to the discussion of this poison it may be well to describe more exactly the poison apparatus which each fish possesses.

The trachunis draco is a handsome fish, striated with blue and brown and not unlike a trout in general appearance. Upon each of its gill covers there is situated the spine in connexion with the special gland. This spine is grooved and slightly erectile and is attached partly to the maxilla and partly to the under surface of the gill cover. It passes through the gill cover, where it shows as a sharp point, the length varying with the size of the fish. The spine is covered with a very fine membrane almost to its free extremity, and this membrane converts the grooves on the spine into little canals which open near the extremity of the spine near the point. At the base of this spine upon the upper surface lies the poison gland, under the gill cover and partly covered by the adductor muscle of the gill cover, which helps to compress the gland, forcing the fluid into the canals and at the same time erects the spine. When the spine enters another fish or an animal its membrane is stripped back and the poison enters at once into the wound. The gland is small, with nucleated colourless cells secreting a transparent fluid.

The scorpæna scropha is an unattractive-looking fish, squat of body, large of head, red in colour, having many protuberances on its skin and fins of an exaggerated character. The fins are peculiar also in that the rays project beyond the membrane. This fish may attain a large size, and is called by the French fisherman "le diable" and by the Italians "lo scorfano." The special organ in this fish is connected with the rays of the dorsal fin. The poison gland is connected with the first three of these rays, which project for a third of their length. The third ray is always the longest. In one fish examined it measured two and a half inches. The poison glands are attached to the spines on their posterior aspect. These rays or spines have three grooves running from base to tip and are covered with a fine membrane converting the grooves into conducting canals for the poison. The tips of these spines are very sharp and strong. This fish has also three stubby spines upon each gill

cover, the uppermost of which is the longest and the only one which has a gland attached. Describing the vulnerant fish in his atlas Savtschenko[1] says: "The poison of these fish which wound one always finds in a particular gland placed at the base of the dorsal or caudal fins. This gland communicates with the first or the last two rays of the fin. Similar glands one finds with some fish under the spines of the gills."

The Effect of the Poison on Small Animals.

A guinea-pig or rat being chosen for the subject of the experiment, one of these fish is grasped with a cloth and the spine is pressed against one of the animal's hind limbs till the point enters the skin. As the poison of the trachinis and that of the scorpæna produce the same symptoms, these symptoms varying in intensity, sometimes more acute with the former, again more so with the latter fish, but producing the same train of symptoms, so have I grouped the effects under one heading. A few minutes after the animal has suffered this puncture from a recently-caught living or dead fish it gives a few gasps and squeals, at the same time twitching the injured limb; these symptoms of local pain and irritation advance within a varying period to more general ones. This is the period when the poison is distributed throughout the system. Great pain is exhibited, and though when undisturbed the animal is affected with tremors, yet if excited at this time convulsive movements and contortions are produced, accompanied by screams of fear and pain. The animal finds itself unable to run or escape and often falls over clawing the air with its forelegs; then, if left alone quietly, these pass and the animal drags itself along by the front legs, the hind-quarters being semi-paralysed. Any touching or handling of the injured limb intensifies the sufferings of the animal. At this time the place of puncture is intensely red and swollen, and this area extends almost half an inch round the wound. All the wool is shed from the skin, which exudes a reddish serum. Later, if the animal is still living, this part is gangrenous. Usually, however, from now the progress of the poison is very rapid, and the animal is in a condition of semi-paretic collapse. The pulse is small and the feet are cold. The urine and fæces are passed involuntarily, the urine dribbling away. The eyes are starting and the nostrils distended and respiration seems difficult. The animal is unable to move, the hind legs are stretched and flaccid, almost completely paralysed. This collapse becomes more profound and is soon followed by death. These symptoms and signs may be compressed into one hour or more depending on the concentration of the poison injected. In cases where the poison is in very small quantity the animal may live for fourteen or sixteen hours before death comes.

The Effect of the Poison on Man.

For illustration of the course of symptoms I propose to take the case of a man who has been bathing and been unfortunate enough to strike against one of these fish with his foot. This commonly happens with the trachini who are fond of concealing themselves in the sand. On the other hand, the cases which most frequently occur with the scorpænæ are cases where a fisherman or cook has touched these fish incautiously. At the moment of puncture only the sharp prick is felt at the place of contact with the spine. In a few minutes, however, the part commences to burn and itch and then becomes acutely painful with sudden stabbing pains. These pains increase in violence and shoot from the foot, passing up the leg in lightning darts, which force the person to lie down and writhe. Then a feeling of suffocation is felt and pain over the heart. From this time commence those cries of anguish which can always be recognised as caused by the acutest torture and fear. These cries are continuous and beads of sweat stand on his brow. The hand is put to the throat and heart, as if the action could relieve the feeling of suffocation, which now becomes stronger. Flashes of light pass before his eyes and the pulse is found to beat intermittently. The sufferer, moaning and imploring for aid, gradually seems to lose sight of the bystanders, and a delirium sets in where only the cries persist accompanied by convulsions. This state may pass on to collapse and death, or may, after lasting for many hours, gradually subside leaving a malaise which is very difficult to get rid of. In one case which I saw of a man who had been poisoned in the above manner this subsequent malaise persisted for nearly two months. During that time the man was under constant treatment the shock having been so great; the wound on the foot at the same time was very reluctant to heal.

The local appearance of the injured part at this time shows as follows. At the moment of puncture there is seen only a small hole in the skin, which may be pigmented by the membrane from the spine. This puncture does not bleed. Round the puncture is an area of about half an inch in diameter, where the skin seems whiter than the surrounding parts. Outside this is an area of redness more or less diffuse. A little later this redness encroaches on the white central part where the puncture is, and soon all is of the same colour. Next the red increases in hue from light to dark and then from dark red to black. When this occurs there is considerable œdema and oozing from the wound which now opens. This part in a day or two may become gangrenous and slough off, leaving an irregular wound, or the gangrene may burrow to deeper parts and affect the joints. In some cases it becomes necessary to amputate the foot. The inflammation, even when much milder, is difficult to heal, and this I put down to the injury of the trophic nerves by the local action of the poison. In other cases boils and phlegmonous bullæ appear on the affected limb, and this may be accompanied by a phlebitis. Describing the effect of this poison on man P. Savtschenko[2] says: "At the place of puncture at the moment when the fish has wounded with the aid of one or more of the rays of the dorsal, caudal, or stomach fins or with the spines which some fish have on the gill covering there is produced a great pain which extends in rays around the place that has been punctured. At the same time the wounded person is subject to a sensation of fear and anguish, followed by a faint, which is preceded or accompanied by nausea and general collapse. The wound at the moment of puncture shows only the form of the spine which has produced it. ..... Its circumference, pale at first, reddens afterwards, becoming more and more pronounced, finally engorged and black. The sick man at the same time is taken with a fever more or less strong, depending on the force of the wound and on the quantity and property of the injected poison in the skin, on the place and on the sensibility more or less of the person wounded. According to natives these, like wounds, have often the most sad endings, the attention not being given in time or by incompetent persons."

The treatment of such cases can be said to be twofold—to prevent the poison as much as possible from entering into the general circulation and to combat subsequent symptoms as they arise. If the wound be treated at once with a caustic or corrosive solution the major part of the general symptoms of poisoning may be averted or very much modified. Natives in the Mediterranean use blue-stone for this purpose, but it is usually applied too late or insufficiently. The cautery simple or galvanic should be applied or the wound well opened and washed with a strong solution of corrosive sublimate. The absorption of this poison is very rapid and the means at hand are generally the best to commence with. Thus it is better to open the wound and allow of free bleeding rather than wait for caustic or cautery. At the same time the patient must not be neglected. Brandy and sal volatile given frequently as in snake poisoning are of the greatest benefit. When there is much pain morphine injections may be given, and these pains are amongst the most acute, so that quite a considerable amount of morphine will be required to alleviate these symptoms. Alcohol is valuable, as it also deadens the pains, and it may be given up to the semi-intoxication of the sufferer. The ammonia stimulates the heart against the effect of the poison. As soon as the acute pains are passed and the sufferer is more comfortable twenty grains of bromide of potassium with ten grains of bromide of ammonium may be given combined with the liquor ammoniæ acetatis. This will give the patient a calm night and sleep. The subsequent treatment depends on the individual case. The malaise which follows lasts for a considerable time and is often complicated by the slow-healing wound in the foot or hand. In every case absolute rest should be enjoined.

The nature of this poison approaches that of snakes. It is alkaloidal, very quickly decomposed, and intensely rapid in its action. It is secreted by the fishes in larger quantities at the spawning season and is most active in the male fish. It is a poison of which the smallest quantity introduced into the skin of an animal produces the greatest

[1] P. Savtschenko: Atlas des Poissons Vénéneux, St. Petersburg, 1886

[2] Ibid.

general effects, so much so that these vulnerant fish might well be called the snakes of the sea. The poison is clear, transparent, and very slightly acid, and not at all viscid. It is only forced into the canals of the spine at the moment of use; at other times it lies in the gland. In any case it is only secreted in the smallest quantity, but this secretion goes on more rapidly in the summer when the spawning season is on hand. This animal-chemical alkaloidal poison introduced locally produces within a few hours necrotic changes and a dead area follows. This is caused by its special action on the trophic nerves. Indeed, its special action seems to be on nerve tissue, as witness the general effects apart from local changes—pains, intense stabbing sensations, tremors, convulsions, delirium. Then the heart is much inhibited, and this gives rise to feelings of suffocation and impending death.

This alkaloid has not yet been isolated, and if it should be done will be found to be more or less of the same group as the snake alkaloids.

Galashiels, N.B.

CASE OF LOCALISED DYSTROPHIC (?) RHEUMATOID ARTHRITIS.

BY A. H. CARTER, M.D., F.R.C.P. LOND.,

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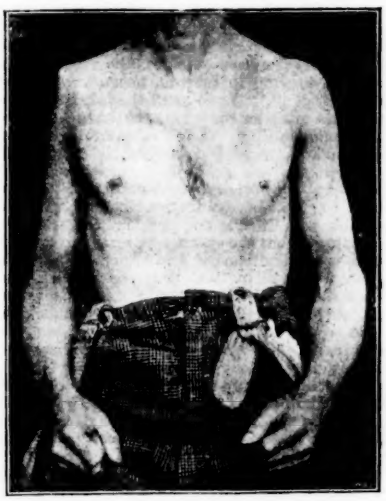
A MAN aged thirty-five years was admitted into Queen's Hospital, Birmingham, on Jan. 1st, 1896. He was a worker in brass, and was in the habit of working with his arms on a shelf nearly as high as his shoulders—a forced position, which frequently caused cramp in his arms. Also for some reason in the course of his work he frequently put the metal into his mouth to moisten it, and in consequence had a constant metallic taste. His family history is good, with the exception that his mother (aged sixty-five years) is slightly rheumatic. He had always enjoyed good health until his present illness. Nine years ago he had severe rheumatic pains in his right elbow, the whole arm becoming weak and painful on movement. His right shoulder gradually became stiff until in the course of three or four years the limb could not be moved from his side. Meanwhile, the muscles about the right shoulder wasted. He had occasional pains in other joints, but only temporarily, without causing further trouble. He then went to a bone-setter, who forcibly wrenched the joint about and secured much more mobility. His after-treatment consisted of daily local massage and manipulation, under which he rapidly regained, not only more movement, but the muscles around the joint much increased in size. A month later an abscess formed under the joint and burst into the armpit. This continued to discharge for a year, healed for three months, then discharged for another nine months, when it finally healed. During the latter year the shoulder again became stiff, with renewed rapid wasting of the muscles, and the arm at this joint had been helpless ever since. On admission the right shoulder exhibited the appearance shown in the accompanying illustrations, taken from photographs. The deltoid, supra-, and infra spinatus muscles were atrophied beyond recognition, and gave no response to electrical stimulation, whether constant or interrupted. The biceps and pectoral muscles were slightly atrophied (probably from disuse), but gave normal electrical reactions. The right shoulder-joint was ankylosed, but on firmly grasping the scapula very slight movement was obtainable, suggesting a fibrous union. No deformity or marked bony outgrowth could be detected. The nutrition of the right forearm was normal, and its circumference was half an inch greater than that of the left, while the movements and power of the right forearm and hand were perfect. Nothing abnormal about any other joint or muscle was observed. The right knee-jerk was obviously exaggerated. The teeth exhibited a greenish stain close to the edge of the gums, the tongue was broad and flabby, and indented by the teeth. The appetite was bad, flatulence occurred after meals, and the bowels were costive. The urine was normal.

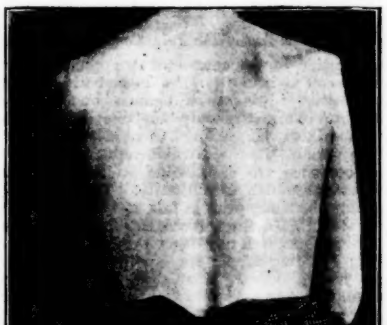
Remarks.—I regard the above case as a typical instance of localised rheumatoid arthritis. Beyond a rather doubtful allusion to vague pains in some of the other joints for a short period during his illness there was no history of the systemic and visceral disturbances which so commonly characterise chronic rheumatism and gout. The absence also of any symmetrical implication of the left shoulder strengthens the view that the arthritis is the result of local, rather than of general, disturbance. It is difficult to say whether the degenerative changes in the cartilages and bones (so characteristic of true rheumatoid arthritis) are present or not,

FIG. 1.



owing to the fact that the patient did not come under observation until ankylosis had been already established. Monarticular rheumatoid arthritis often dates, as is well known, from a local injury either to the joint itself or to the neighbouring structures. In the present instance no history could be obtained of any injury to account for the first onset of the joint trouble; but the very rapid

FIG. 2.



relapse of ankylosis and muscular atrophy which followed the bone-setter's violent manipulations leave little room for doubting the unfavourable influence of the local injuries then inflicted upon the joint structures. It is a noteworthy fact in this connexion that the supra-

scapular nerve (supplying the supra- and infra-spinatus muscles) and the circumflex nerve (supplying the deltoid) each send a special branch to the shoulder-joint. The view that rheumatoid arthritis represents a dystrophy or defective nutrition of the joint dependent upon central nervous disorder is now very widely held, but there is much difference of opinion as to whether the nervous disorder is primary or whether it is set up by reflected irritation arising from the joint itself. There is nothing unreasonable in supposing that arthritis may arise in either way. In the entire absence of any indication of primary nervous disease it seems more likely that in the present case the dystrophy is due to reflected rather than to primary nervous disorder. It is also not improbable that persistent metallic contamination, occasioned by the nature of the patient's work, counts for something as a predisposing cause of his arthritic trouble.

Birmingham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

INVERSIO UTERI.

By JOHN W. WALKER, M.R.C.S. ENG., L.R.C.P. LOND.,
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CASES of complete and spontaneous inversion of the uterus following closely upon labour are so rare that the notes of the following case may be useful. Galabin and Playfair state that the accident was only observed once in 190,800 deliveries at the Rotunda Hospital, Dublin.

On Sept. 14th, 1894, at 10 P.M. I was called to attend a woman and found labour just commencing. The os was dilated to about the size of a sixpence; the pains were frequent and strong. The labour proceeded steadily and at 2.15 A.M. the child was born. Immediately afterwards I placed my hand on the abdomen to secure contraction of the uterus and found it quite firm; my attention was then directed to the infant, and when I had tied the cord and was in the act of severing it the patient gave a loud scream as if in sudden and violent pain, and as I looked to see what was the cause I noticed the signs of great shock: the face was pallid, large beads of perspiration came out upon the forehead, the pulse was very small and rapid, and the skin cold and clammy. On examination I found that there had been a sudden and complete inversion of the uterus, the whole organ lying outside the vulva with the placenta attached, but little or no hæmorrhage taking place. I at once gave a hypodermic injection of ether, which quickly restored the patient, and I then removed the pillows to keep the head as low as possible. The placenta was easily peeled off the uterus, and I then commenced to reduce the inversion. When I had succeeded in getting the whole uterus well within the vagina and nearly everted, strong uterine contractions came on, which caused the fundus of the uterus to again become inverted; so strong were the contractions that my hand became completely cramped, and I was unable on this account to reduce it any further. I then sent for my assistant, Dr. E. C. Maguire, who came and administered chloroform, the patient being by this time in a fairly satisfactory condition; but during the interval of time that had elapsed the inversion had again become much more marked, so that the internal surface of the fundus was presenting at the vulva. When she was completely anæsthetised I was soon able to reduce it with the exception of a small cupping of the fundus, but the uterine contractions were again so strong that my hand became cramped at this stage, and I was compelled to desist and ask Dr. Maguire to undertake the task while I attended to the anæsthetic. After a few minutes he was able to completely reduce the inversion, and then repeated injections of hot permanganate solution caused a satisfactory contraction of the uterus which remained. I am happy to say that there was no after trouble or any rise of temperature; but I kept her in the recumbent position for three weeks in order to secure permanent fixation of the uterus, and she made an uninterrupted recovery. I have recently attended her in a second confinement, which passed off without any special feature.

Wakefield.

A CASE OF CIRCUMSCRIBED TRAUMATIC ANEURYSM OF THE PALM.

By ARNOLD CADDY, F.R.C.S. ENG.

THIS rare condition was present in a European female aged thirty-three years. On March 10th, 1896, while resting her right hand on a wineglass, the latter gave way and broke, cutting the palm of the hand. The wound, which bled profusely, was dressed at once and healed in five days. Four days later the wound was noticed to be tender when the patient was holding the reins in driving. Gradually at the site of the original wound a small, pulsating swelling appeared, which slowly increased in size. This swelling was only painful when the hand was used for grasping objects, but was not tender to pressure.

I saw the patient for the first time on April 17th, and then there was a rounded, pulsating swelling in the right palm the size of a nutmeg lying between the roots of the middle and ring fingers on a level with the head of the metacarpal bones. Pulsation ceased on compression of the radial and ulnar arteries at the right wrist, but returned at once when pressure was removed. On April 19th, the patient being under chloroform, assisted by Dr. H. C. Garth, of this city, I tied the right radial and ulnar arteries at the wrist. The wound was dressed antiseptically, the hand and forearm being put up on a straight splint. On April 21st the tumour had become quite hard and was without pulsation, the circulation in the fingers being perfect. On April 26th the wound was healed and the sutures were removed. The tumour had perceptibly shrunk. The splint was worn till May 8th and then the hand was only carried in a sling. By June 3rd the tumour had shrunk to the size of a small pea and the hand was in constant use.

I have recorded this case on account of the rarity of palmar aneurysms, whether spontaneous or traumatic. I was prepared here to tie the brachial artery if ligature of the radial and ulnar had failed, which event might have occurred owing to the free anastomosis existing through the interosseous artery and the palmar arches. The patient herself was also desirous of trying the less severe measure first and the operation proved a complete success.

Calcutta.

DISLOCATION OF BOTH SHOULDER-JOINTS.

By G. E. HASLIP, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

I WAS called on June 1st to see a man, aged forty-one years, being told by his wife that he had had a fit the previous evening and had fallen, and he had been unable to use his arms since. The shoulders and arms were considerably swollen and bruised, and an examination showed a subcoracoid dislocation of both humeri, which were easily reduced by the extension method. Whether one or both were caused by the fit or the fall is, I think, purely a question of surmise. I may mention there was no previous history of any dislocation.

Northumberland-avenue, W.C.

THE SEWERAGE OF ALDERSHOT CAMP.—At a special meeting of the Aldershot district council on Saturday week the question of the disposal of the camp sewage was discussed. An appointment had been made with Colonel Parker and Dr. Kimshead on behalf of the Government to attend, but Mr. Robertson said that before these gentlemen came before the council it would be wise to consider the purport of their visit. The vice-chairman of the council said he should object to the spending of a single penny until there was a proper contract between them and the Government. They had paid £90 for valuing on behalf of the Government, and they should be refunded that amount. There were other outstanding accounts that ought to be attended to. The clerk said he was now attending to that matter, and the question was postponed entirely.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

UNUNITED FRACTURE OF THE HUMERUS; OPERATION; RECOVERY.

With Skiagraphic Illustrations.

(Under the care of Mr. EDMUND OWEN.)

CASES of non-union after fracture are always interesting, but it is not possible in many of the cases to say what the cause of the want of union is. The use of the newly introduced method of photography showed (as seen in the figures here reproduced) that in this instance the ends of the bones were not directly opposed and that they were smoothly rounded off. The operation showed that not only was there no muscle interposed between the fragments, but that the amount of fibrous tissue which had formed was small. It would appear as if there had been what is called "independent repair" without subsequent atrophy of the bone ends. In a case such as this when there is apparently nothing in the general condition of the patient to interfere with the healing process, and the amount of displacement does not appear sufficient to prevent union of the fragments, it almost seems as if the power of repair for that particular part was exhausted by the repeated calls for the necessary supply of uniting material or that the local stimulus afforded by the bone ends was no longer efficient. The result of the operation was very satisfactory, and the fact of slight irregularity of outline of the bone, if the usefulness of the limb is restored, can never be permitted to weigh with a jury of intelligent men in any action for damages against a surgeon. In the latest edition of Erichsen's Surgery[1] the following statistics are given as to the frequency of ununited fractures in the humerus and femur, in which bones ununited fracture is relatively most frequent. Of all fractures 15·5 per cent. occur in the humerus, but 29·5 per cent. of all ununited fractures are met with in that bone. The femur yields 13·2 per cent. of all fractures and 26·4 of ununited fractures. For the notes of this case we are indebted to Mr. C. D. Leyden.

On April 18th, 1896, a healthy man twenty-two years of age was admitted to the hospital with an ununited fracture a little below the middle of the right humerus. He gave the following history. When seven years old he broke the same humerus, but it solidly healed in about four weeks. On March 22nd, 1895, he was fireman on a locomotive which met with an accident at Steynsberg, South Africa. About four hours after the accident a medical man secured his arm in splints, but for the next eighteen hours he lay out in a wet field. Next day, however, he was taken to De Har, and, entering the hospital there, his arm was put up afresh. A month later, when the apparatus was removed, it was found that the ends of the bones "were riding a good bit," so the union was broken through and the limb re-adjusted in a plaster-of-Paris splinting, which reached from below the shoulder to just above the elbow. Five weeks later the splinting was taken off, the union was declared to be solid, and he wore the arm in a sling for two weeks. Seven weeks after leaving the hospital, whilst at work on his engine, he slipped and fell and once more broke the right humerus. A medical man at Cradoc this time fixed up the limb on an angular splint with short splints around the seat of fracture, but the limb was so much swollen that when he reached the hospital at Port Elizabeth, three days later, excessive swelling demanded removal of all apparatus, the arm being kept on a pillow and treated with lotions for a fortnight; after this chloroform was administered so that the broken ends might be properly adjusted and secured by splints. But at the end of nine weeks no union had taken place. For seven weeks longer, therefore, he was kept in hospital with the arm in splints to see if union might occur. But as this did not ensue an extensive cutting operation was performed, but in due course this also proved unsuccessful. The patient then started for England, his arm being still in splints.

On entering St. Mary's Hospital a red, linear scar of about five inches was seen upon the right lower bicipital region, and a fracture could be detected a little below the middle of the arm, with a good deal of thickening about the false joint. The fragments overlapped, the lower one being displaced forwards and outwards. There was no loss of sensation anywhere, and the man moved his fingers freely; the elbow-joint, however, was somewhat stiff. With the object of seeing the exact condition of the arm and as to whether the ends of the bone had been adjusted with wire sutures at the time of the operation Dr. Laurie and Mr. Leon were good enough to receive the man into the chemical laboratory of the school and to take a skiagraph (Fig. 1).

FIG. 1.

Skiagraph showing fractured ends of bone far apart and with no union.

This showed the relative position of the ends of the bone and the absence of effective callus between them. Further, it revealed the fact that in the previous operation the ends of the bone had not been laced together by wire.

Preparatory to the operation Mr. Leyden moulded on lateral splints of house-flannel and plaster-of-Paris, which reached from the shoulder to the roots of the fingers. These splints were to be applied over the dressings with the view of ensuring complete rest to the parts. The operation consisted in cutting down to the seat of fracture (i.e., through the original scar), in freshening the ends with an electric saw, and in piercing them in two places each with an electric drill, so that they might be adjusted and secured by two strong silver wire sutures—one traversing the bones from before backwards, the other (at a different level) from side to side. The wound was washed out with a mercuric solution, completely closed with a silk suture, and dressed with wood-wool. The limb was then enclosed in the gypsum splints, which had been previously prepared. Next day the temperature reached nearly 102° F., but two days later it was normal, and so it remained. The dressings were not disturbed until the twelfth day; and on the thirty-first day after the operation Dr. Laurie and Mr. Leon were good enough to take another skiagraph (Fig. 2), which revealed the fragments solidly united and the wires in position. It also showed that consolidation had taken place with a little malposition. When it was thus ascertained that the mend was solid the limb was taken out of the splinting each day

[1] Erichsen's Science and Art of Surgery, tenth edition, 1886, vol. i., p. 566.

for the purpose of massage, and the man left the hospital "cured" on July 10th.

Remarks by Mr. EDMUND OWEN.—Week by week and in various ways the practical value of the Roentgen rays becomes manifested in surgery. Recently, by means of a skiagraph taken by Dr. Laurie and Mr. Leon, I was able to demonstrate to a class of students the exact amount of displacement in the case of an old separation of the upper epiphysis of the humerus of a young man. In connexion with the surgery of the epiphyses and in injuries to the

FIG. 2.

Solid union of the fragments with the permanent sutures of stout silver wire.

joints the "x" rays are likely to prove highly and increasingly useful. My only regret in connexion with the report of the case which is here published is that the second skiagraph shows the upper end of the lower fragment of the bone still tilted a little forwards. It does not really matter. But what may a British jury think when a skiagraph of some (unpublished) case is being explained by the sharp advocate of some claimant for damages for malpraxis? I do not know if the "x" rays have yet penetrated our Law Courts, but if not they are sure to do so ere long. In Fig. 2 the stout silver wire looks strangely wavy, even where it is tunnelling through the solid bone—I should have expected it to come out quite straight. In conclusion, I would thank Dr. Laurie and Mr. Leon for their generous help in connexion with the skiagraphs, Mr. Leyden for his excellent clinical report, and my house surgeon, Mr. Brodribb, for his kind help in the management of the case.

WANT OF MORTUARY ACCOMMODATION.—It will come as a surprise to many people to learn that Lambeth has no mortuary. As Mr. Wyatt, the deputy-coroner, said, in the course of a recent inquest where the post-mortem examination had been made in a private house, it is uncertain "whether the parish is too mean or too careless to build a proper place for the dead in cases of this sort. It is certainly a disgrace to Lambeth." We hope that this strong speaking will stir the parochial authorities to some sense of their responsibility in the matter.

Reviews and Notices of Books.

The Theory and Practice of Hygiene. By J. LANE NOTTER, M.A., M.D. Dub., Professor of Hygiene in the Army Medical School, Netley, Brigade-Surgeon-Lieutenant-Colonel Army Medical Staff, &c.; and R. H. FIRTH, F.R.C.S.Eng., Assistant Professor of Hygiene in the Army Medical School, Netley, Surgeon-Major Army Medical Staff. London: J. & A. Churchill. 1896. Pp. 1034. Price 24*s.*

THE authors' preface is the best introduction to this book. "This volume is founded on the well-known work of the late Dr. E. A. Parkes, subsequently enlarged and edited by the late Professor de Chaumont, and lately re-edited by one of us. The law of progress to which all science is subject, however, causes any work of a scientific nature to become out of date in a few years, and this applies in a special manner to the very large number of subjects embraced in and closely connected with hygiene and public health." The authors have succeeded in their purpose and produced what will certainly in future editions for many years be the standard text-book of public health in this country. Though the work is based on that of Parkes, the amount of added matter is nearly two-thirds of the whole. In comparing the latest edition of Parkes's work with the present volume, section by section, there is no part which has not been thoroughly brought up to date. The chapter on Water occupies the first 120 pages. Every method of chemical analysis that is valuable is carefully and accurately described, so that it should be quite easy for anyone who follows the directions given to carry out the processes without difficulty. The various micro-organisms commonly found in water are tabulated and their more important culture phenomena set down. A rather more liberal use of illustrations in this portion would have been of great help and might well take the place of the somewhat useless Plate I. The position of the writers with regard to water analysis is very sound: "To condemn one water because it yields a little more albuminoid ammonia than another, or because it contains a few more organisms than another when we know nothing of the nature of the substance yielding the ammonia and nothing of the character of the organisms is obviously so illogical as to be absurd. ..... Although a mere analysis cannot guarantee us purity and safety, yet it very frequently can reveal to us impurity and risk."

The next 125 pages treat of Air, Ventilation, and Heating. From what is clearly a practical experience of the difficulties of students, the authors have reduced the necessary mathematical formulæ to their simplest terms, and even the non-mathematical mind should find them easy to grasp. The results of the experiments of Parry-Laws and Andrewes and of Alessi are fully recorded and no recent work of any value has escaped the authors' notice.

The 160 pages devoted to Food, Beverages, and Condiments somewhat amplify what was always one of the best sections in Parkes's work. The reproductions of micro-photographs in Plate II. are not very happy and compare unfavourably with the old illustrations which reappear. The chapters on clothing and exercise are commendably brief, occupying only twenty pages, yet omit nothing of interest.

In discussing the relations which exist between soil and certain diseases the authors are obviously somewhat hampered for room, and it would be advisable in a future edition to amplify somewhat the space given, particularly in reference to diphtheria and rheumatism.

The subjects of the Disposal of Sewage and Refuse, and of Parasites are fully treated and could not be better done.

Nearly a hundred pages are given to the Infective Diseases, as compared with thirty in the last edition of Parkes's

work. Dr. Manson's latest writings on malaria and Dr. Sidney Martin's on tuberculosis are noticed, and the bibliography, which throughout this work is excellently done, is particularly good and complete in this chapter. The authors have followed the useful plan of having a separate bibliography for each subject at the end of the section. In the chapter on Meteorology the necessary calculations are simply and accurately described, and sufficient examples given to make the description quite plain.

Vital Statistics was certainly the weakest point in Parkes' book, and even in the eighth edition only seven and a half pages were allotted to the subject. Brigade-Surgeon-Lieutenant-Colonel Notter and Surgeon-Major Firth have increased this to thirty-six pages, and in this space manage to include a very large amount of information. But it is too compressed. For this reason the explanation of the method of formation of a Life Table falls far short of lucidity (complete lucidity is, perhaps, impossible), and even the common expression, "corrected death-rate," is rather inadequately explained.

Sanitary Law did not appear at all in the older book. In a little over ninety pages the authors give a first-rate, clear *résumé* of most of the important points, arrayed under heads—Drainage, Water-supply, Alkali Works, Unsound Food, &c.—making reference exceedingly easy. The chapter on Military Hygiene is, of course, as good as it can be, and a very useful short chapter on Marine Hygiene closes the volume.

It is a book to be recommended without reserve of any kind. It should be in the hands of every medical man, and for almost all will form an ample and adequate library of public health information.

Leçons de Clinique Médicale (Hôtel-Dieu, 1894–1895). Par le Dr. PIERRE MARIE. Paris: Masson et Cie. 1896. (*Lectures on Clinical Medicine, Hôtel-Dieu, 1894–1895.* By Dr. PIERRE MARIE. Paris: Masson and Co. 1896.) Price 6 francs.

THE accomplished physician who has here published some of the lectures which he delivered during the session 1894-95 at the Hôtel Dieu, when temporarily acting for the late Dr. G. Sée, is well known to the English reader through his volume of lectures on Diseases of the Spinal Cord, translated by the Sydenham Society. The present collection does not contain any lectures on diseases of the nervous system, except the three on Generalised Neuro-fibromatosis, which close the series. This condition, better known, perhaps, under the name of molluscum fibrosum, is a very remarkable one, and its clinical and pathological history is well discussed by Dr. Marie, who points out the frequency with which it is transmitted by inheritance. Apart from heredity, he refers to its first appearance having followed injury and, curiously, also certain toxic agencies—e.g., arsenic. Some cases, too, have seemed to follow attacks of infective diseases—as measles, scarlet fever, diphtheria, or rheumatism. Dr. Marie questions, however, whether in all such cases there may not be also present an inherited bias towards this particular kind of change, just as in cases of myopathy which sometimes develop after fevers. The subject of Cyclic Albuminuria—or Pavy's disease, as Dr. Marie thinks it is justly called by some authors—is discussed with acumen, the author combating the view which has lately been expressed in more than one quarter that it is an indication of commencing granular kidney. Dr. Marie believes that cyclic albuminuria is a morbid entity. The case which forms the text of his lectures had been under observation for seven years and had presented no variation in the intermittent character of the albuminuria, nor had any cardio-vascular signs developed, as might naturally be expected were the case one of Bright's disease. Nor does the discovery of renal tube-casts in the urine of these subjects alter his opinion as to the purely functional character of the affection. Casts, when present, are but scanty and only to be detected by using the centrifuge—indeed, the use of this apparatus led to the detection of casts in the urine without any albumin being present. It would seem as if the significance of tube-casts as indicative of nephritis were becoming very small. Dr. Marie leads up to the conclusion that cyclic albuminuria is due to derangement of the sympathetic nerve and that it has some analogy with migraine. On this ground he prescribes antipyrin, which, in the case he relates, sometimes had a noticeable effect in temporarily checking the albuminuria. Diabetes is dealt with in several lectures, the features of its various types being sketched—the arthritic, the nervous, and the pancreatic forms. Of the latter he gives an example then under observation in which the suddenness of onset and rapidity of evolution of symptoms were marked. Pancreatic feeding was tried in this case, but with disappointing result: Dr. Marie, however, says that the patient was "wholly undisciplined and unintelligent, and could never be made to pursue a methodical *régime*." Nervous diabetes and the nervous sequelæ of the affection are discussed, whilst two lectures are devoted to a subject that, so far as we know, has hardly attracted any attention in this country—namely, "Diabète Bronzée," where, together with the evolution of glycosuria, there are progressively increasing pigmentation of the skin, an enlarged liver (pigmentary hypertrophic cirrhosis) and spleen, and other abdominal symptoms. Dr. Marie has done useful work in presenting us with such a succinct account of this interesting variety of diabetes, or rather, as he expresses it, this distinct form of the disease, which in its onset and acute course resembles "pancreatic diabetes." There are also lectures upon Congenital Heart Disease and Deformities of the Chest as well as one on the practically important subject of Chronic Rheumatism, of which two forms are distinguished, the "diathetic" and the "infectious," the marked relief afforded by the administration of salol in the latter class being advanced as confirmatory evidence of a view of its nature which is arrived at on other grounds. The volume is well illustrated, and although the topics dealt with are few and are by no means exhaustively treated the lectures are singularly interesting and well worthy of the famous clinique where they were delivered.

Twentieth Century Practice, an International Encyclopædia of Modern Medical Science. In Twenty Volumes. Edited by THOMAS L. STEDMAN, M.D. *Vol. V., Diseases of the Skin.*[1] Pp. 905. London: Sampson Low and Co. 1896.

IN the volume before us are to be seen in a marked degree the disadvantages of multiple authorship. In books on other specialities it leads to much inequality. So it does here; but it leads here also to confusion because no two authors, especially of different nations, are agreed as to the exact condition described by every name used in dermatology. This work is described as international, but in the present volume out of eleven contributors one is Austrian, one English, and two French; the remaining seven are American. It is not, therefore, surprising to meet with expressions like "acuity" for acuteness, the "size of a 10 cent piece," and so forth. The authors do not always seem to treat of the subject of which they are known to have made a special study, and the descriptions in some cases would lead the reader to infer that they have not always had a very wide personal experience of the subject they describe. A few pages at the commencement are devoted to the histology of the skin, but hardly any reference is made to the general pathological processes observed in the skin, excepting, perhaps, a brief passing notice of keratinisation, in which, by the way, we notice the inconsistency of statement, first, "that the dry,

[1] Reviews of Vols. I., II., III., and IV. were published in THE LANCET of Nov. 30th and Dec. 7th, 1895, and Jan. 4th and May 9th, 1896, respectively.

horny plates" of the epidermis "are derived from the mucous layer is a view no longer held"; and on the next page reference is made to the "change from rete into corneous cells"; and, again, "the transition stage from the rete into corneous cells." The next chapter deals with Parasitic Disease. This is a very important section, for, as the author mentions, the history of dermatology consists of a constant transference of skin diseases formerly regarded as constitutional to the division due to local causes, chief among which are animal and vegetable parasites. This chapter (by Dr. L. D. Bulkley of New York) gives a very complete account of the subject, and the section on ringworm and the trichophytons embodies all the recent researches. In the chapter on the Erythemata the author (Dr. H. W. Whitehouse of New York) makes a wise attempt at grouping the varieties into fewer species, though the differences even between these are not always clearly established. Among the forms given is erythema pudicitiæ, and in a treatise or work of reference on Dermatology the subject, if mentioned at all, should receive more than the scanty notice it does, for practitioners are far more frequently consulted for morbid flushing than for many of the very rare conditions to which many pages are devoted.

Some of the chapters open with definitions, but some do not. Perhaps this is well, for the definitions are not always of the best; that of eczema, for instance, would apply equally well to many other skin diseases. The author divides eczema into sixteen clinical varieties, each with a separate description, besides fourteen local varieties (e.g., eczema of the scalp, eczema of the face, eczema of the ears, &c.), though it is not always clear on what the distinctions are based. Many of these forms are described twice over, once under symptomatology and once under treatment. The latter descriptions are in most instances all that are required, and the former might well have been omitted. In this way sixty-two pages are absorbed, while Psoriasis, by another author, is fully and adequately described in fourteen. The section on Dermatitis, by the same author, has less of this reiteration, and is valuable as including descriptions (still somewhat lengthy) of conditions due to contact with poisonous plants, of dermatitis medicamentosa, burns, frost-bites, feigned skin disease, and dermatitis exfoliativa epidemica.

The chapter on Papular Affections is a translation from the French of M. Brocq. This contains a good account of lichenification, to which process he has devoted much attention. The English (?), however, is full of inelegancies such as "diagnosticate," "evolute," "syndrome," "sharp cut," &c., besides some hardly intelligible Anglo-French phrases and the excessive use of the word "one." The translation of Professor Leloir's admirable description of the dermato-neuroses is not open to this objection. It is excellently compiled and translated, and though coming at the end it forms undoubtedly the most important contribution to the volume. A good but somewhat lengthy (in view of the rarity of the affection) account of Xerodermia Pigmentosum is given by Professor Kaposi.

A chapter is devoted to Phlegmonous and Ulcerative Affections, but ulcers as such are not treated of in this volume. We notice also with regret that no descriptions of lupus vulgaris, carcinoma, and sarcoma of the skin are included in the work. There is no preface, and we are at a loss to understand on what grounds such important subjects as ulcers, lupus vulgaris, carcinoma, and sarcoma cutis should have been excluded from a volume dealing with dermatology. Lupus erythematosus is included under the head of benign neoplasms, and the author who describes it (Dr. J. T. Bowen of Boston) is so strongly convinced that lupus erythematosus and lupus vulgaris are separate diseases that he does not give their diagnosis!

There are only a few illustrations, but these are well executed, and the volume is well bound and printed, in this respect being a great advance on most American publications.

A Text-book upon the Pathogenic Bacteria, for Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D., Demonstrator of Pathological Histology and Lecturer on Bacteriology in the Medical Department of the University of Pennsylvania, &c. Philadelphia: W. B. Saunders. 1896. Price $2 50.

The Principles of Bacteriology. By A. C. ABBOTT, M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. Third Edition. London: H. K. Lewis. 1896.

THE multiplication of text-books on any subject is a very sure index of its growing importance, and as there is probably no instance of a science which has grown with such amazing rapidity as bacteriology it is no matter for surprise that whereas but a few years ago we had no good text-book on the subject in the English language we have now numerous and excellent ones the number of which is yearly increasing. America has in recent years borne its full share in the furtherance of bacteriological knowledge, and it has, moreover, already produced one of the most complete manuals of the subject which has yet appeared—that, namely, from the pen of Dr. Sternberg. The two works whose titles head this notice are both excellent in their way and it is not quite the same way. Dr. Abbott's is perhaps the more useful book, as being more directly practical in its aim, while Dr. McFarland's is more fitted for those who have no opportunity for laboratory work.

Dr. McFarland's text-book is a well-printed octavo volume of some 350 pages, and it professes to deal with pathogenic bacteria alone or with allied non-pathogenic forms only in so far as is necessary to elucidate their relations with, and differentiation from, the pathogenic species. Dysentery, malaria, and other diseases due to the animal parasites are entirely excluded. It is excellently adapted for the medical students and practitioners for whom it is avowedly written. The author is, however, a good pathologist as well as a bacteriologist and the value of the work is much enhanced thereby. The chapter on Tuberculosis is one of the best in the book and well illustrates the advantage of combining the two subjects; it is an exceedingly well-written and valuable account of the matter. No text-book of bacteriology can be absolutely up to date, for important additions to our knowledge are sure to be made while the sheets are in the press. Dr. McFarland, however, has included in his book most of the recent additions worth incorporating into a work of the kind. The first part deals with preliminaries and methods, and is sufficiently full to place the student in a position to follow the detailed descriptions which are to come. There is a good account of the different theories of immunity, in which the author lends his support to the theory of antitoxins while allowing the claims of the doctrine of phagocytosis. The larger part of the book deals with the chief diseases due to bacteria, which he elects to group under the three somewhat arbitrary headings of "phlogistic," "toxic," and "septic" diseases. A classification which separates malignant œdema and anthrax from the acute inflammatory diseases and pneumonia from influenza does not appear a particularly logical one. The descriptions given are accurate and readable, and the book should prove useful to those for whom it is written. The illustrations are excellent reproductions of micro-photographs, chiefly from Fränkel's and Pfeiffer's and other well-known works; but the author's statement in the preface that such illustrations, taken from "the best the world affords," must necessarily be superior to anything new that can be done is not one with which we can agree, and is a very unjust reflection upon the probable progress of micro-photography.

Dr. Abbott's "Principles of Bacteriology" has now

reached its third edition, a sufficient evidence that it has been appreciated. It makes no pretence to being a complete manual of the subject, but is a sound practical introduction to bacteriology, and sets forth clearly and fully the various methods employed in its study as well as the principles underlying them. Herein lies the chief merit of the work, which is just what is wanted for those who are beginning laboratory studies. It is full of helpful practical detail and useful suggestion. The experiments suggested to the student for proving the truth of the statements in the text are a particularly good point in the book. Descriptive bacteriology forms only the lesser portion of the volume, but good accounts are given of the chief pathogenic species which are usually studied in the laboratory, together with complete directions for their study. The figures are adequate and clear; some of the coloured ones are excellent. At the end of the book a useful list of the apparatus and materials required in an ordinary bacteriological laboratory is given. Its value would have been increased by adding the prices. This third edition of the "Principles of Bacteriology" has been thoroughly revised and brought up to date, and we can heartily commend it to students about to enter upon the practical study of the subject.

The Crowd: a Study of the Popular Mind. By GUSTAVE LE BON. London: T. Fisher Unwin. 1896. Pp. 230, demy 8vo.

THIS is a singularly interesting book, especially since the *vox populi* is in the present age generally considered to be the *vox Dei*. M. Le Bon very properly lays stress upon the importance to legislators and statesmen of the study of crowds, and after this preliminary he takes his crowd and proceeds to submit it to a masterly dissection. He brings out the almost appalling powers which a crowd possesses on account of the irresistible power given by its numerical strength. "An isolated individual knows well enough that alone he cannot set fire to a palace or loot a shop, and should he be tempted to do so he will easily resist the temptation. Making part of a crowd he is conscious of the power given him by numbers, and it is sufficient to suggest to him ideas of murder or of pillage for him to yield immediately to temptation." Of course this feeling may be exerted for objects which are morally or religiously correct. M. Le Bon cites, among other instances, the Crusaders, and this, perhaps, is the most wonderful example of how a crowd can be acted upon. Let anyone read the history of the Crusades and mark how all classes set forth, from the highest to the lowest, many without arms, food, or clothing, how they traversed half a continent and were content to die within sight of the Holy City. Such acts show, as perhaps nothing else could do, that crowds, unreasoning, impulsive, and essentially feminine as they may be, are still capable of the most heroic acts.

We can cordially recommend this work, not only as a scientific piece of analysis, but as a wholesome study for "popularly elected bodies."

THE EAST LONDON WATER QUESTION.—The Hackney Vestry held a meeting on Wednesday night at which the question of the water-supply of East London was discussed. In reply to a question as to what had been done by the General Purposes Committee to whose care the matter had been delegated during the holiday of the vestry, the chairman of that Committee said that the sub-committee had sat every day, including Sundays, and had distributed over four hundred thousand gallons of water in the poorer districts since the beginning of August. They had also supplied a large number—upwards of fifteen hundred—of jars to people who had no other means of storage.

Analytical Records
FROM
THE LANCET LABORATORY.

NORFOLK CIDER.

(GAYMER AND SON, BANHAM, ATTLEBOROUGH, NORFOLK.)

THE following analyses are interesting in showing the chief variations in the composition of some assorted specimens of cider received from the above firm. Extra-selected natural, "O.N.S.": absolute alcohol, by weight, 7·33 per cent.; by volume, 9·13 per cent.; equal to proof spirit, 15·99 per cent.; extractives, 2·75 per cent.; mineral matter, 0·13 per cent.; fixed acidity reckoned as malic acid, 0·33 per cent.; volatile acidity reckoned as acetic acid, 0·16 per cent.; and sugar, 0·7 per cent. Very dry, "V.D.": absolute alcohol, by weight, 5·94 per cent.; by volume, 7·40 per cent.; equal to proof spirit, 12·97 per cent.; extractives, 4·20 per cent.; sugar, 2·12 per cent.; fixed acidity reckoned as malic acid, 0·23 per cent.; volatile acidity reckoned as acetic acid, 0·23 per cent.; and mineral matter, 0·21 per cent. "Star": absolute alcohol, by weight, 7·93 per cent.; by volume, 9·86 per cent.; equal to proof spirit, 17·29 per cent.; extractives, 3·55 per cent.; sugar, 1·37 per cent.; fixed acidity reckoned as malic acid, 0·22 per cent; volatile acidity reckoned as acetic acid, 0·23 per cent.; and mineral matters, 0·22 per cent. "Sparkling Pommetta": absolute alcohol, by weight, 7·40 per cent.; by volume, 9·21 per cent.; equal to proof spirit 16·14 per cent.; extractives, 3·26 per cent.; sugar, 0·94 per cent.; fixed acidity reckoned as malic acid, 0·26 per cent.; volatile acidity reckoned as acetic acid, 0·19 per cent.; and mineral matters, 0·30 per cent.. Thus the alcohol varies from 5·94 per cent. to 7·93 per cent. by weight, the extractives from 2·75 per cent. to 4·2 per cent, the sugar from 0·7 per cent. to 2·12 per cent., the malic acid from 0·22 per cent. to 0·33 per cent., the acetic acid from 0·16 to 0·23 per cent., and the mineral matter from 0·13 per cent. to 0·30 per cent. The "O.N.S." presents the best composition. Each specimen was, however, in excellent condition, and was specially marked by the peculiarly agreeable aroma and flavour of the sound fruit. The aroma was very delicate and evidently derived solely and wholly from the apple, and the successful preservation in the beverage, of this attractive quality of the fruit, as in the present samples, makes cider a very enjoyable drink. The unsoundness of cider owing to objectionable fermentative changes, to which it is very liable, unless prepared upon rational lines, has hitherto militated against it becoming a popular article of consumption, but there is no valid reason why this should be so, as evidenced in the specimens before us. When in a similar sound and ripe condition to that in which these samples were found to be cider undoubtedly affords a wholesome, refreshing, and palatable beverage. It is important to add that a search for objectionable preservatives showed that such had not been employed to secure this satisfactory condition.

VARIOUS AERATED WATERS.

(R. ELLIS AND SON, RUTHIN, NORTH WALES.)

The organic purity of the water (Ruthin) with which these aerated beverages are prepared is an admirable feature. Beyond mere traces of mineral solids it is practically equivalent to freshly distilled water, and in this respect resembles the pure waters of Wales. The waters are well charged with gas, bright, and free from sediment. The following analyses illustrate the care taken in the manufacture to secure a product that may be depended upon, not only for its purity, but for the amount of the particular constituents indicated on the label—e.g., soda bicarb., potass. bicarb., and lithia bicarb. Potass water: potassium bicarbonate 36 grs. per

pint, chlorides a trace, and free ammonia *nil*. Soda water: soda bicarb. 14 grs. per pint, slight trace of chlorides, and free ammonia *nil*. Lithia potass water: alkalinity equivalent to 46 grs. of potass. bicarb., or 31 grs. lithium bicarbonate per pint; chlorides, trace; and free ammonia, *nil*. Seltzer: alkalinity equivalent to 15 grs. sodium bicarbonate per pint; common salt, 11·2 grs. per pint; and free ammonia, *nil*. Lastly should be mentioned a specimen of ginger ale, of pale amber colour, pleasantly sparkling and free from irritants.

"ROSBACH" WATER.

(ROSBACH SPRINGS, LIMITED, 33, LEADENHALL-STREET, E.C.)

"Rosbach" water belongs to the class of natural table waters known as "alkaline and carbonated," although in regard to mineral constituents it contains a much smaller proportion than the generality of the members of this group. In some respects this is an advantage; its taste, for example, is but slightly saline, which renders it well adapted for mixing with milk, lime-juice, &c. When taken alone the water is peculiarly soft and smooth to the taste. According to our examination its organic quality is beyond reproach. Analysis gave the following results: total solids, 1·60 gramme per litre, containing small amounts of carbonates of lime and soda, with sodium chloride; the latter amounted to 12 grains per pint, and the alkalinity of the water was equivalent to 5·3 grains of bicarbonate of soda per pint.

BEANES' DIASTASED FARINA.

(W. BEANES AND CO., FALCON WORKS, HACKNEY WICK, N.E.)

An admirable feature of this preparation is its richness in active diastase. It is essentially a farinaceous food, which in the ordinary process of cooking becomes to a very great extent converted into soluble carbohydrates and sugars, and when thus prepared is undoubtedly a valuable, because easily assimilable, food. The simplest experiment—viz., gradually warming the food to boiling point—suffices to confirm the pre-digestive properties of the preparation. At the end of the process the reaction for starch is feeble and hardly evident, while at the commencement it is, of course, strongly marked. The preparation possesses a very agreeable malty flavour and smell and contains a good proportion of essential mineral matters. We commend the preparation as a food of special value, because the real digestive action of the diastase contained in it is utilised and made available in cases of feeble digestive power. As is well known, unless diastase is allowed to act before food is ingested its activity is greatly impaired, if not entirely destroyed, in the acid juices of the stomach.

"ADONIS" NATURAL MINERAL TABLE WATER.

(EMIL TUTEUR, 72, MARK-LANE, E.C.)

This water is derived from springs situated in a remote part of the Ardennes in Belgium. It is only slightly mineralised and its alkalinity is equal to 4·5 grains of bicarbonate of soda per pint. The water is agreeably soft to the palate and is well charged with gas, clear, and brilliant. It is quite free from organic impurity. Of the earthy carbonates present that of magnesium predominates. The comparatively small amount of lime salts present is a probable advantage.

COD-LIVER OIL AND IRON.

(MAY AND BAKER, LIMITED, GARDEN WHARF, CHURCH-ROAD, BATTERSEA, S.W.)

According to our examination this is a true compound of cod-liver oil and iron. It is a clear, somewhat dark-brown, oily fluid, which proves to be soluble in ether without separation of the constituents. On ignition very finely divided ferric oxide resembling jewellers' rouge remains. The weight of oxide so obtained from one fluid ounce approximated to one grain. The iron may be extracted from the oil by agitation with hydrochloric acid, which will be found to contain the iron in the ferric state. We have no experience of the clinical value of this interesting combination, but judging from its composition it presents iron in a form which should be readily absorbed, while, of course, cod-liver oil is a nutritive of the highest order. It should serve as a very effective tonic and food.

New Inventions.

A NEW STONE-SEARCHER.

IN THE LANCET of April 18th and 25th, 1891, there appeared an article by Mr. G. Buckston Browne upon the subject of a bladder pouch, the roof of which was partly formed by the over-growth of the posterior lobe of the prostate gland and the inter-trigonal bar. Both by context and by illustration he further very fully and explicitly made it apparent that a stone may be lodged in such a post-prostatic pouch and be absolutely beyond the reach of the ordinary stone-searcher. He cites cases to that effect in his own practice and the practices of others, in one of which cases the stone was missed even when a suprapubic cystotomy was performed. Since that time I have seen several cases, and with a view of obviating the difficulty have had made for me by Messrs. Tiemann and Co. of New York a stone-searcher of which the accompanying cut is an illustration. It is passed into the bladder and the bladder is searched as far as possible in the same manner as with the ordinary stone-searcher. The back is then completely reversed until the bend strikes the posterior edge of the prostate gland, and by means of the button on the handle the semi-curved stem in the cannula is then protruded a sufficient degree to reach the bottom of the pouch and strike the stone if one is present. I have found this instrument of advantage in several cases in which the ordinary stone-searcher had completely failed me, even with a finger introduced in the rectum in order to push up this post-prostatic pouch. Incidentally I would say that Mr. Henry Morris and Mr. E. Hurry Fenwick have used the instrument with success and speak highly of it.

New York. H. H. KANE, M.D.

THE CORSET BRACE.

WE have received from Messrs. S. Maw, Son, and Thompson, of Aldersgate-street, E.C., a sample of their registered corset brace, which, it is claimed, prevents stooping and corrects any tendency to round shoulders, especially in young girls. The makers state that it neither constricts the waist nor interferes with the natural action of the muscles of the back.

THE foundation stone of a Medical University for Women was laid at St. Petersburg on July 26th.

MEDICAL MAGISTRATE.—Mr. Peter Macgregor, L.R.C.P., F.R.C.S. Edin., has been placed on the Commission of the Peace for the Borough of Huddersfield.

THE LANCET.

LONDON: SATURDAY, AUGUST 29, 1896.

WE have upon several occasions had to comment upon the unjust treatment measured out to house physicians and surgeons. Only last week we drew attention to the fact of a house surgeon being censured by a coroner and his jury for not having taken in a drunken man, as if it were the duty of a hospital to do so. In our opinion the law is far too generous with regard to these cases. Any man or woman who gets so drunk as to necessitate his or her removal to a hospital should, consciousness being restored, be taken before a magistrate in the morning and heavily fined or punished in some other way. If such an offender is not so drunk that his powers of verbal obscenity are in abeyance, or if he has by chance committed an assault before complete incapacity supervened, he can be punished; but if he only gives infinite trouble to the officers of a public charity designed to help worthier objects he gets off scot free.

But to return to the main subject. A case occurred quite recently in Westminster which exposes at once our present very imperfect methods for dealing with infectious disease, the difficulties with which the junior medical officers of our hospitals have to contend, and also the varying manners of coroners and their juries. A child aged two years, whose parents live in the Borough, had been for some time under the care of a grandmother living in Westminster. Early in June the child had been treated at Westminster Hospital for whooping-cough. On Aug. 3rd the mother went to see the child, and finding that the grandmother was unable to look after her properly took her away on Aug. 6th, first of all to her home and then into lodgings. On Aug. 17th the mother took her to Westminster Hospital, and when the house physician saw the child and heard that she had been in the hospital before he said: "But it did not have diphtheria then, did it?" This is different from asking, as the newspaper reports put it, "Whether the child had had diphtheria." He then told the mother to take the child home as soon as possible and to call in the parish medical man, imagining that the child was still living in Westminster. Thinking thus, he omitted to give the mother the usual warning about cabs, omnibuses, or tramcars, for why should any such vehicles be required if the child's home was only a few steps away from the hospital? The mother carried the child away, first to her mother's, and then got into an omnibus to go home, but observing the child to get rapidly worse as they crossed Westminster Bridge she took her into St. Thomas's Hospital, where she was found to be dead.

As to the question of Dr. GENGE'S action (we give the house physician's name, the newspaper reports having held it up to notoriety) he could have kept the child waiting in the surgery or corridor while he sent for the ambulance, but this would have been unfair and dangerous to the other patients in the surgery; or he might have sent her to the isolation room, which, however, from what we hear, is not very well adapted for its purpose. He hesitated to pursue the latter course, because the removal of a patient from the Westminster Hospital by the Metropolitan Asylums Board on the last occasion took some six hours. Thinking the child lived close at hand, he sent her home, and had his belief been correct he took the best course. Evidently the jury thought so too, for we see they returned a verdict of "Death from natural causes." It is easy to be wise on the event, but we hope that after this lesson the Westminster Hospital authorities will provide some better accommodation for patients with infectious disease awaiting removal than they now seem to possess. And surely the Metropolitan Asylums Board might manage to move a patient in less than six hours. We believe that the Board has far more work put upon it than it can do, and probably to increase the staff and the accommodation would cost a large sum; but it would be preferable to ask the ratepayers, overburdened as they are, to pay an extra 1*d.* in the pound for better protection against the dangers of infectious diseases than to allow such inadequate service as is revealed by this story to remain the routine of the Board.

THE scheme for the supply of sea-water to London is so far advanced as to have received the authority of Parliament in a short Act which was published on a comparatively recent date.[1] It may be concluded, therefore, that the construction of works will be proceeded with at once and that the supply before long will be an accomplished fact. In these days, when it is the current notion that water-supply, gas, and tramways should be under the control of a municipal authority, it is a little surprising perhaps that the undertaking of a sea-water supply to London should have been left to the enterprise of a few private individuals. Sea-water, however, can hardly be regarded as a necessity of modern existence, although we are not sure when sea-water is made available in London by-and-by, that although it may not be found absolutely indispensable, yet it may be found to exercise a very important part in ministering to the needs of the public service. In short, it is probable that a sea-water supply will be found a really useful, if not indispensable, adjunct in the affairs of public sanitary administration. We have already pointed out that sea-water would be a most excellent vehicle for the conveyance of sewage. On the face of it, the present system of using one and the same water for drinking and flushing purposes is absurd, and if sea-water were substituted for this purpose an enormous saving would be effected in the supply of pure water for drinking purposes. The carrying power of sea-water, again, by reason of its increased density would be greater, and as it possesses slight though distinct disinfectant properties its employment for this purpose would contribute towards making the sewer mains of our streets more cleanly and healthy.

Primarily, we suppose the supply of sea-water is intended for bathing purposes, but its application will not stop there. Doubtless it will be employed for watering the

[1] London Sea-Water Supply Act, 1896 [59 and 60 Vict.] [Ch. clviii.] Price 4s. 9d. Printed by Eyre and Spottiswoode.

streets and for many other purposes. The undertaking is, of course, a commercial one, and we cannot help expressing some wonder whether its promoters have taken an accurate gauge of the requirements in regard to the quality of the supply which they propose to bring to the metropolis. To begin with, the water is to be drawn on the south coast at Lancing, in the county of Sussex, at a point 250 yards or thereabouts measured due south from the seventh mile-post from Brighton on the road leading from New Shoreham to South Lancing. If we are not mistaken the intake in that case would be situated within a comparatively close distance of the Worthing sewage outfall. We believe that the fouling of Lancing foreshore by this sewage outlet is a subject of reproach which is constantly brought before the notice of the Worthing Town Council by the inhabitants of Lancing. If this is so, Lancing does not appear to be a desirable point from which to obtain sea-water for London supply. The London Sea-water Supply Act, 1896, does not provide for the purity of the supply. We do not urge that the restrictions on a sea-water supply should be so stringent as those properly enforced on a drinking supply, but we do maintain that sea-water for public purposes should be free from sewage contamination.

The regulations protecting the interests of the landowners and property owners through whose premises mains will be laid appear to have been efficiently drawn up. Leakage, of course, of a strong saline solution may have a deteriorating effect or damaging effect upon other main supplies. If sea-water, for example, should find its way to electric cables it may lead to "short circuiting," and consequently to overheating of the mains, since salt water is a fairly good conductor. Whether, again, it will affect gas mains is another important question to be decided. In any case, we take it, the risks rest with the company, but in the interest of the public dangers of this sort must be fully provided against. We have already alluded to the probable advantages of sea-water as a sewage carrier, but it is possible that the presence of so much salt in the sewage may seriously interfere with the methods of purification or precipitation in use at the outfalls, and again it would be interesting to know what the effect of such a highly saline discharge would be upon the condition of rivers. There is no doubt that sea-water in the bath is a distinctly beneficial agent and a sea-water supply "on tap," so to speak, at the hotels and at our homes will be a distinct advantage. Indeed, the availability of a sea-water supply will be an influence for good upon the public health. The chemistry, and therefore the therapeutics, of sea-water, apart from its saline composition, are not thoroughly understood, but probably the salutary effect of sea-water is due to small amounts of certain constituents. The very characteristic smell, for example, of sea-water cannot be ascribed to the salts alone, for an artificial solution containing the same salts in the same quantity does not possess in the slightest degree this peculiar but well-known odour. It is probable that owing to the continual turbulence or motion of the sea in intimate contact with the air that a profound influence upon the salts is exercised perhaps in the formation of chlor-oxy compounds. As is well known, the effect of the electric current upon sea-water is to produce *inter alia* hypochlorous acid, a chlor-oxy compound, giving rise to the production of a very powerful antiseptic, disinfecting, and deodorising fluid. Sea-water would thus be available for the instant preparation on, if need be, a very large scale, of a reliable disinfectant.

In regard to the organisation of the London Sea-water Supply Company it is to be composed of not less than five directors, and the capital of the company is proposed to be £600,000 in shares of not less than £10 each. We shall be very surprised if this amount is found to be sufficient for such an undertaking. The company will supply water to any private houses or buildings at a rate not exceeding 5*s.* per 1000 gallons. The price of London water by meter is about 6*d.* per 1000 gallons. In most cases the owners or occupiers of a house are entitled to demand a supply of sea-water from mains passing within a distance of twenty-five yards of the house. For parish or district services, watering, flushing, &c., the authorities are to pay the company at a rate not exceeding the rate now paid by such vestry or district board authorities for fresh water for the same purpose. It should be understood that the company are not given by this Act any exclusive privilege of supplying sea-water in London, and if any Bill be introduced into Parliament to empower the London County Council, the Corporation of the City of London, or other local authority, to take and purchase the undertaking, the Company are required not to oppose such Bill except upon questions of terms and details. The development of this novel and important enterprise will be watched with the greatest interest. Indeed, we are inclined to think that in "a double water-supply for London"—i.e., of sea-water for sewerage, cleansing, and other purposes, and of fresh water for drinking purposes—lies the foundation of a means of solving a difficulty which must be faced and overcome at no very distant date.

A LARGE amount of work has been carried out in recent years with regard to pernicious anæmia, and an article by Dr. RICHARD E. CABOT in the *Boston Medical and Surgical Journal*, vol. CXXXV., Nos. 5 and 6, is a valuable addition to our clinical knowledge on the subject. It forms a study of fifty cases, a number sufficiently large to warrant some conclusions being drawn from the collection. His observations on the blood corpuscles are especially worth noticing. He states that the pallor of the corpuscles was very marked in some cases and not in others. Where deformities in shape were present one of the commonest is the absence of any central biconcavity, the corpuscles being swollen up and taking appropriate stains in a smooth, even manner quite different from the normal corpuscle. Variations in shape (poikilocytosis) were more apt to be present, if at all, towards the fatal end of the case. Of thirty-six cases in which this point was noticed ten showed little or no variation from the normal shape. The deformities when present usually belonged to one of a few types such as are usually pictured in connexion with the disease. The racquet-shaped and sausage-shaped cells were specially common. These variations of shape were not commoner in pernicious anæmia than in any severe case of secondary anæmia or chlorosis. This opinion coincides with that of other modern observers, although at one time it was held

that the condition of poikilocytosis was one peculiarly characteristic of the pernicious form. According to Dr. CABOT'S experiences, the distorted forms of the red blood corpuscles were not infrequently absent in pernicious anæmia—in more than one-fourth of his series. The variations in size were more constant than deformities. They were present in 90 per cent. of these cases, both microcytes and macrocytes being seen. Here, again, Dr. CABOT corroborates the writings of other authors. Most of the latter, however, lay more stress on the large numbers of microcytes which are usually seen, frequently in groups of twenty or more together, whilst macrocytes, as a rule, are only present in small numbers. The increase in the average diameter of the corpuscles was present in eighteen of this series, so far as could be judged by measuring a few corpuscles in each case and then endeavouring to apply the standard so obtained to a large number, a method easily adopted in ordinary clinical work. Very frequently the large corpuscles showed the lack of biconcavity mentioned above. The Ehrlich-Biondi method, which was used in all these cases, stains normal red corpuscles straw yellow. In nineteen cases of the series there were present certain red cells which contrasted distinctly in colour with the clear yellow of the surrounding corpuscles. The colour of these atypically stained cells varied through various shades of brown to purple. This reaction is not so well known as the other properties of abnormal red cells and is worthy of further investigations. In only one of the thirty-five cases examined were nucleated red corpuscles wanting. In the thirty-four others there were seen from 1 to 568 nucleated red cells in the space covered while making a differential numeration of 1000 white cells. As many as nine different varieties of nucleated red cells were noted in addition to the cells with dividing nuclei (some of them of normal size, some as large as any megaloblast) and cells showing karyokinetic figures. In no case was there observed any sudden and marked increase in the number of normoblasts, such as has been mentioned by some writers as a point of favourable import. As a rule, the number of megaloblasts steadily increased as the patient grew worse, while the relative proportion of normoblasts diminished. Cases where the whole number of nucleated corpuscles, or the proportion of megaloblasts, was relatively large seemed to be neither better nor worse off than those where only a few were to be found, but on the whole it is to be concluded that an increase of these cells in the blood of any one case is a bad sign.

Annotations.

"Ne quid nimis."

THE ROYAL VICTORIA HOSPITAL, MONTREAL.

THE sympathetic bonds and the community of interest existing between Canada and this country prompt us to congratulate our Canadian kinsmen on a remarkable instance of sustained munificence recorded in the *Montreal Gazette*. In commemoration of Queen Victoria's jubilee in 1887 Lord Mount-Stephen and Sir Donald A. Smith devoted $1,000,000 to the founding of the Royal Victoria Hospital in Montreal. Of this large sum $250,000 are still unexpended, and the same donors, who have done so much for their country in many ways, have now placed in the hands of trustees securities having a par value of $800,000, which it is expected will yield an annual income of $40,000 for the permanent endowment of the hospital. This noble benefaction of $1,800,000, or about £360,000, has provided Montreal with a hospital which is an ornament to the city and compares favourably with many of the older foundations on this side of the Atlantic, but such a manifestation of public spirit and enlightened philanthropy is of more than merely local interest and importance, illustrating as it does an earnestness in good works which the instincts of all English-speaking races will delight to honour. Let us hope that the new hospital may become a centre of beneficent activity and may be destined to take a prominent place among similar institutions engaged in the alleviation of suffering and in the advancement of the healing art.

THE BRITISH PRACTITIONER ON THE CONTINENT.

IN THE LANCET of Aug. 1st we protested against the refusal of the French and Swiss Governments to permit British medical men to practise in their territories, but the familiar maxim that most questions have two sides has once more been exemplified, and our remarks have in their turn been adversely criticised by Dr. L. K. Herschel of Bordighera. This gentleman possesses a diversified experience of life in various countries which claims attention for his opinions as being in a more than usual degree uncoloured by national or local prejudices. After having received the customary school and college education in the United States of America he studied medicine in the University of Vienna. In due course he took his degree and held a resident appointment in the Vienna General Hospital, next proceeding to Italy, where he again presented himself for examination and graduated as M.D. at Florence. He then practised at Pisa from 1878 to 1886, mingling with the English residents and being one of the churchwardens of the Anglican church in the city. In 1888 he paid a visit to England, and on his return to the Continent he settled at Bordighera, on the Italian Riviera, from which place he now writes to us. We were prepared to hear that in the Mediterranean health resorts the competition for medical practice is keen, and that the men who are already established in these popular localities do not regard the intrusion of a new arrival with absolute equanimity, but Dr. Herschel casts a new and unexpected light on this complicated question. In England professional men complain that the income tax presses more heavily on them than on the trading or commercial classes, and Schedule D is therefore a favourite theme for denunciation. In Italy, however, the native medical men not only pay income tax, but those who reside in towns where there is a foreign colony are rated according to a higher scale than practitioners in other parts of the country, and when this inequality is accentuated by the visitors from abroad almost invariably consulting migratory medical advisers of their own nationality the unfortunate native practitioner must needs come to feel that his lot is hard. This peculiarity in the fiscal policy of the Italian government, which has only been made known to us by our correspondent's letter, must be highly objectionable to its victims, and constitutes a grievance capable of being exactly formulated and of touching a sympathetic chord in the feelings of taxpayers universally. After all, however, it is the difficulty of winning the confidence of the foreign visitor and his helpmate which perplexes the local practitioners. We in England can hardly realise the full import of the subject, because on the Mediterranean seaboard the natural preference of our countrymen and countrywomen has removed many difficulties which

would easily beset the British practitioner; and at home, as our correspondent pointedly observes, medical men who become temporary residents at health resorts in the hope of benefiting by the climate or the waters do not, while living at an hotel, systematically engage in practice and compete with their local brethren. Continental practitioners are no doubt free to settle in this country, and though their names are not in the Medical Register may attend all and sundry who seek their advice; but this affords few opportunities for retaliation, as wealthy invalids from abroad do not seek our shores in any considerable numbers. The French and Swiss medical men will probably not be much the gainers by the fostering care of their respective Governments, for it is hopeless to expect that the average British tourist or valetudinarian can be coerced into accepting more than an unavoidable minimum of attendance from an alien and unwelcome adviser, and, on the other hand, when it has become evident that a lucrative practice awaits the man who possesses the necessary personal and social qualifications, some adventurous Briton will succeed in obtaining formal recognition of his professional knowledge, and then with the law on his side will have a practical monopoly of the coveted harvest.

WHAT IS SCIENTIFIC PLAGIARISM?

OUR Rome Correspondent writes:—This is an all-important question, accentuated rather than solved by the legal answer just given to it by the Court of Appeal at Rouen. The case before that tribunal was as follows: Professor Cesare Lombroso of Turin, the well-known anthropologist, was invited by a publishing house in Milan to compile a manual on "Graphology," the science, truly or falsely so-called, which professes to read a man's character in his handwriting. Professor Lombroso had already been among the first to make this an object of study—his special investigations having been made with a view to find another aid to diagnosis in cases of lunatics and delinquents. In the manual compiled for the Milanese house he confined himself to what had already been published by contemporaries (he had no predecessors) on the same subject, and among others he made copious citations from the book of M. Cremieux-Jamin, a dentist practising in Rouen. So little intention had he of plagiarising from this author that he acknowledged his obligations to him in the preface, warmly eulogising M. Cremieux-Jamin's talents and industry, and styling him the "first graphologist living." Unfortunately, in the chapter dedicated to invalids and their handwriting, Professor Lombroso, in the midst of his own matter, interpolated three pages from M. Cremieux-Jamin's book, accompanied by three small *clichés*, omitting at the same time to cite that author's name, apparently a piece of sheer forgetfulness occasioned by Professor Lombroso's unsystematic mode of working, certainly not designed to injure M. Cremieux-Jamin's claims, which had already been amply acknowledged under headings of greater importance. This plea, however, was disallowed by the Rouen tribunal, which found in those three pages—and in those three only—a flagrant act of plagiarism, while at the same time admitting that every other use made of the book by Professor Lombroso was within the limits of the law. The verdict seems to the Italian public a somewhat ungenerous one, the offence of Professor Lombroso having been due to an obvious oversight, which an apology tendered in open court ought surely to have condoned. But the significance of the verdict does not stop there. Instances constantly occur in which after a general acknowledgment of indebtedness one scientific writer makes free use of another's work without suspecting that his failure to give name, chapter, and verse on each individual citation renders him liable to prosecution for plagiarism with (as in Professor Lombroso's case) the penalty of a considerable fine. True, in the vast majority of cases the "chivalry of science" accepts the general acknowledgment of indebtedness as covering all special obligations, and only where there are "strained relations" subsisting between individuals or schools (as the Italians say subsist between their countrymen and the French) is that acknowledgment deemed insufficient. The fact remains that it is in the power of a susceptible author to avail himself of such a plea as that which found favour with the Rouen tribunal. Moreover, it is often very difficult to decide between two authors pursuing the same line of inquiry as to who has priority in observation or discovery. Indeed, as research multiplies and workers become more numerous in identical fields, the chances of coincidence in their findings are more and more apt to occur. Are these coincidences to provoke collisions between rival claimants to priority? The Cremieux-Jamin *v.* Lombroso case would seem to favour the possibility. Meanwhile the corollary to be deduced from it is nothing more or less than a reinforcement of Professor Michael Foster's demand for an international organisation of science to register at frequent intervals the results of contemporary investigation, and so by placing the worker and his output *en évidence* to minimise the risk of retracing ground already trodden, and to make clear to the world of science what has already become common property and what still remains the possession of the original author.

THE SANITARY CONDITION OF THE RUSSIAN ARMY.

ALTHOUGH medical and sanitary statistics have long been in existence in the Russian army it is only of late years that they have assumed a definite form, thanks chiefly to the untiring efforts of Dr. Schmoulevitch, Privy Councillor, who, for upwards of twenty years, has devoted himself with great zeal and discretion to the improvement of this branch of military and demographic science. In 1893 the effective strength of the Russian Army amounted to nearly 1,000,000 of all ranks, the exact figures being 38,079 officers and 937,471 men. The territory over which this large force is distributed is enormous, embracing well-nigh half the circumference of the globe from Poland to Behring's Strait. The recruits are drawn from several distinct races speaking different languages, and the entire force is divided into nineteen army corps which are quartered in fifteen districts, ten being in Europe and five in Asia. The number of troops in these districts varies from 150,000 to a few thousands according to situation, the small garrisons occupying the more remote parts of Siberia. Every year from 900,000 to 1,000,000 recruits are summoned for examination, but only about a quarter of the number are chosen. It might, therefore, be supposed that great strictness in selection was exercised, but apparently this is not the case. The Recruiting Commissions, each assisted by three medical men who may be either civil or military, admit so many reasons for exemption in addition to physical defects, that fully 20 per cent. of the men who eventually join are said to be unfit for service. From 1890 to 1893, inclusive, the admissions to hospital varied from 468 to 397 per 1000 of strength, but if the cases treated "à la chambre" are included the total disability mounts up to 1914 per 1000 on the average of the four years. The principal causes of non-effectiveness were as follows:—Paludal affections 100, venereal diseases 40, gastro-intestinal catarrh 29, bronchitis 24, eye affections 22, furuncles 15, pneumonia 10, pleurisy 8, scabies 8, typhoid fever 7 to 12, scurvy 4·5, per 1000 of strength. Fifty years ago the mortality was said to be upwards of 37 per 1000, but the data are open to question. By 1889-90 it had fallen to 7·83 and 7·73 respectively, and the following year there was a

further fall to 6·91. Cholera prevailed during 1892 raising the death-rate abnormally, but in 1893 it was only 6·97 per 1000. With regard to invaliding it is difficult to set down the exact loss as various systems of leave-giving are in force, all of which tend to modify the official returns. According to these between 25 and 28 men per 1000 are invalided every year; so the real rate must be very high. In one respect the Russian army occupies an enviable position among the armies of the civilised world; its loss by self-destruction is comparatively small. Austria heads the list with 120 suicides per 100,000 men, and Germany follows next with 60. Then come Italy 40, France 30, England and Belgium 24 (approximate), and finally Russia 15. Readers desirous of obtaining information regarding the sanitary condition of the Russian army cannot do better than consult an exhaustive article by Surgeon-Major Longuet in the May and July numbers of *Archives de Médecine Militaire*.

THE GRIEVANCES OF SEWER MEN.

IT is not difficult to imagine what the grievances of sewer men are likely to be, so apparent is the unenviable nature of their vocation and the surroundings in which they work. Even assuming that the sewers are working under the best possible conditions the task of inspecting them with a view of keeping them clear must in course of time have its prejudicial effects upon the health. It is to be feared, however, that the work is liable to greater and more sudden risk even than this. For example, there is the danger of ignition and explosion of sewer gases, which are frequently rich in coal-gas escaping from the mains, while marsh gas occurs in the products of the fermentation of sewage; and then, again, there is the risk of a sudden outpouring of deadly gas. Fatal occurrences have of late been only too familiar. We are in full sympathy with the men who were complaining of the hardships of their occupation at a meeting held in the north of London last week. There is little doubt that, as they urge, the risk to health would be very greatly minimised if the sewers were more frequently cleansed. This, of course, would mean increased labour and increased pay, but surely the labourer in the sewer who is working vigorously in the interests of the public health is worthy his hire and entitled to every consideration.

ACROMEGALY TREATED WITH THYROID EXTRACT.

AN interesting case of acromegaly with rather unusual symptoms, in which the treatment with thyroid extract was adopted, is reported in the *Boston Medical and Surgical Journal* of July 2nd of this year by Dr. G. G. Sears. The patient was a woman aged forty-five. She dated her illness from twelve years before coming under observation. At that time she met with an accident which caused a severe nervous shock. She began to be very susceptible to cold and noticed that her hands and feet were increasing in size. Her face grew fuller, her nose more prominent, and her hair coarser and drier; her tongue also became large. She had had frequent attacks of palpitation. Sweating, especially at night, had also been a constant symptom. At intervals she heard a "puffing" in her ears synchronous with the beat of the heart. When she applied for treatment she presented all the characteristic appearances of acromegaly; the circumference of the head was 21¾ in; of the right palm 8¼ in.; the length of the middle finger was 4 in., and the circumference 3 in.; the length of the right foot was 9⅝ in., &c. The voice was thick, monotonous, and plaintive, while words were very slowly enunciated. The eyelids appeared puffy, and the skin of the face was thickened and mask-like. The tongue was enlarged to at least a half more than its normal size. Over considerable areas on the neck and face the skin, which was everywhere moist, was brown in colour, and similar patches of discolouration were seen over the trunk and limbs. Scattered over the neck and trunk were numerous small growths varying in size from the head of a pin to the size of a bean, some of which were deeply pigmented. A few were pedunculated, but most were sessile. The fingers were thick and stubby; the nails were short, broad, and marked with longitudinal striations. She was put on general tonics and on the dried extract of thyroid gland in gradually increasing doses until twelve grains a day were taken. Galvanism was also applied. Three months after her first visit she reported that she was feeling much better and took more interest in current events. Her memory had improved and she spoke and moved more rapidly. Her grasp was firmer, and she was able to do some work (washing). The "puffing" in her ears was gone and the palpitation of the heart was better. There was much less puffiness about the eyes and no pitting over the ankles. She had lost over twenty pounds in weight, but felt stronger than she had done for many months. Subsequently her weight was still further reduced. The longitudinal furrows on her nails were less marked and her tongue showed a considerable diminution in size. There was no change, however, in the measurements of her hands and feet. The puffy condition of the eyelids, the slow speech, and the altered mental state suggested that her condition was associated with a loss of the function of the thyroid gland, which could not be felt even after she had lost considerable flesh. The direct effects of treatment were seemingly apparent in the loss of weight, the diminished trophic disturbance of the nails, and the decreased size of the tongue.

THE DRAINAGE OF CHICHESTER.

THIS ancient cathedral city has for many years occupied an unenviable position amongst sanitarians as being an aggregation of houses built upon gravel which is riddled with holes. Some of these holes received excrement and slop water, others hard by supplied drinking water; communication between the one set and the other was practically ensured. There were men in the city who struggled hard to amend matters—men either themselves versed, or guided by those versed, in the principles governing sanitation; but again there were others who, whatever they were versed in, manifested no knowledge of these matters. The former were called "Drainers" and the latter "Non-drainers," and between these two opposing camps the battle waxed long and at times with fierceness. At last the awakening came; complaint was made to the Local Government Board and the city has been recently sewered. Peace, however, is not yet. Among the "Non-drainers" was Mr. Bostock, a local medical practitioner, who apparently has no faith in sewers; and now that the sewerage is carried out in the city he attributes some enteric fever now prevalent in certain parts of Chichester to the influence of the new sewers. Mr. Bostock sends us a letter, which is hardly suitable for our columns, but as far as we are able to gather from it there has been some difficulty with the subsoil water which has necessitated the withholding of the engineer's certificate until the leakage has been made good. As to this matter, however, we are not in a position to give an opinion without further knowledge, but referring to the authority given to connect with certain sewers the letter says: "Some householders were unwise enough to act upon this and the result of this now appears. Illness has broken out in Chichester worse than has been known for years and when the water comes down after the autumn rains the illness arising from the sewer-gas and from the interceptors in the streets will, I believe, show a marked increase. These interceptors are only death-traps laid in the streets, for

people passing by may inhale the sewer-gas and go home and have enteric fever." This, then, is Mr. Bostock's case against the sewers—a simple *ipse dixit* supported by no evidence whatever. Mr. Bostock has obviously a perfect right to his opinion, but he can hardly expect the readers of THE LANCET to accept it, unsupported, as it is, by any evidence. Mr. Bostock should have told us in what manner and to what extent Chichester has, according to the evidence available, been visited in former times by enteric fever, and whether the distribution of the disease in former years was in any way similar to that now obtaining. An examination of the facts in this sense might possibly render it not unlikely that the enteric fever now prevailing may be due to the very condition of affairs which has obtained for years, which still in large part obtains, and which the "Non-drainers" do not appear to have been over-anxious to remove. Hasty generalisations are to be deprecated.

THE NEWEST THING IN MEDICAL AID.

THE very latest development of "medical aid" of course comes from America, and, appropriately enough, from Philadelphia. As will be seen from our correspondent's letter in another column, the company will furnish "doctor, medicine, and a decent burial for 10 cents a week. They will bury in any cemetery desired, and furnish undertaker, casket with six nickel-plated handles, an extra box for same, drapings for the room, hearse, and three carriages." The collocation of "doctor, medicine, and decent burial" seems a little unkind, and the doctor's pay is to be 25 cents a visit. As this is a trifle over a shilling the average British "club doctor" may well feel jealous of his American brothers. Somehow we do not like the extreme commercialism of this scheme, and if, as we suppose is the case, the scheme is intended for the poorer classes, we think the unostentatious and very real charity of the Florentine "Brothers of Mercy" is preferable.

ABSCESSES CONSECUTIVE TO THE INJECTION OF SOLUBLE MERCURIAL SALTS.

THE results of experiments made by Omeltschenko in regard to abscesses following the hypodermic injection of soluble mercurial salts are published in the *Monatshefte für Praktische Dermatologie*, Band xxii., No. 11. In the course of eighteen months he had opened fifteen abscesses in the region of the back which had followed injections of solutions; of corrosive sublimate. The solution contained ½ per cent. of corrosive sublimate in 2 per cent. normal saline solution; in each case 0·01 gramme of sublimate was injected. He had made a careful examination of the evacuated pus and found in pure cultures the staphylococcus pyogenes aureus; no other micro-organisms were seen in any of the fifteen cases Omeltschenko further experimented on the conditions of growth of the staphylococcus in artificial culture media in which a known quantity of a solution of bichloride of mercury and chloride of sodium had been placed. He found that the growth of the staphylococci ceased when 0·10 per cent. of corrosive sublimate and 0·1625 per cent. of benzoate of mercury were present. In order to kill the cocci a stronger solution was required—0·2125 per cent. of corrosive sublimate and 0·2635 of benzoate of mercury. On these grounds he has come to the conclusion that the pus from these abscesses cannot be considered aseptic; that the abscess is caused by the presence of microbes—the staphylococcus pyogenes aureus; and that the organisms are able to live and multiply in solutions which contain the above-named percentages of mercurial salts. Omeltschenko then investigated the local action of these injections on the tissues by means of experiments on animals. From the macroscopic and microscopic examination of the tissues at the site of injection, when solutions of corrosive sublimate or benzoate of mercury were used, he was able to demonstrate that a corrosive action was first exercised followed by a necrosis of the affected tissues. In the neighbourhood a violent inflammatory action was established which led to suppuration. Omeltschenko sums up thus: That the abscesses under consideration are brought about by the action of bacteria; that the most usual organism present is the staphylococcus pyogenes aureus; that when mercurial preparations are injected locally parenchymatous degeneration of the tissues may ensue; that the pyogenic agent in those cases in which abscesses develop is introduced owing to insufficient aseptic and antiseptic precautions; that the staphylococcus pyogenes aureus shows marked resistance to the action of soluble mercurial preparations; and that the bactericidal properties of benzoate of mercury are less than those of bichloride of mercury, but both solutions have the same action on the tissues with which they are brought into contact.

THE BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

THE British Institute of Preventive Medicine, 101, Great Russell-street, provides courses of instruction adapted to the requirements of medical officers of health, students of hygiene, and chemists whose researches are directed to the phenomena of fermentation and nitrification. Special attention is naturally given to bacteriology in relation both to medicine, pathology, hygiene, biological chemistry, technical industries, and agriculture. The work is under the supervision of Dr. Allan Macfadyen, the honorary secretary, assisted in the bacteriological department by Dr. Hewlett, and in the chemical department by Mr. Foulerton. The practical laboratory course includes all the laboratory instruction in bacteriology and chemistry necessary for the Diploma in Public Health, and arrangements have been made for practical out-door instruction with a medical officer of health; help will also be given to those wishing to carry out original investigations. The Institute is fully provided with all the requisites for the bacteriological and chemical examination of water. Instruction in photo-micrography, both theoretical and practical, may also be had. The laboratories are open daily from ten to five o'clock. The winter session will commence on Oct. 1st.

TUBERCULOSIS AND MILITARY UNIFORMS.

DR. KIRCHNER, in the *Zeitschrift für Hygiene und Infections-krankheiten*, Band xxi., p. 493, describes a remarkable experiment which he made with some uniforms of German soldiers. In the same company of the Braunschweig regiment three non-commissioned officers had contracted tuberculosis. The first case occurred in the autumn of 1893, the second in June, 1894, and the third in May, 1895. In the following August Dr. Kirchner collected by means of sterilised sponges some of the dust from the room where these three men had lived. Guinea-pigs were inoculated but with no result. Nevertheless, it seemed evident that there must be something specially unwholesome in this room, since in so short a time three of the officers who slept in it had suffered and in the same manner. The room served not only as a bedroom but also as a store for a considerable number of uniforms and various articles of military equipment. Dr. Kirchner now placed several of these uniforms and other articles on a table which had been previously and carefully cleansed. Collecting dust from these uniforms and accoutrements some more guinea-pigs were inoculated. In three cases the guinea-pigs contracted tuberculosis. They had been inoculated respectively with the dust from a cartridge case,

from a sabre belt, and from an old tunic which had not been worn for several years. It was the stock of old uniforms rather than the floor of the room which contained the germs of tuberculosis. This certainly seems to indicate that danger lurks in old clothes. Precautions are now taken when a soldier is known to suffer from phthisis, but this is not always ascertained. More particularly now that the short-service system is the general rule soldiers may leave the army before it is discovered that they are suffering from tuberculosis. Evidently if old uniforms are to be kept in store and used again for others they should always be disinfected. Now that clothing can be made so cheaply and rapidly it seems quite unnecessary to give men second-hand uniforms; but if this must be done then the danger should be met by the thorough disinfection of all left-off clothing apparel.

THE BOARD OF HEALTH, NEW SOUTH WALES.

OUR Australian correspondent's letter, published on July 11th (p. 152), intimated that a reorganisation of the Government medical service of New South Wales was in progress, and our announcement is now made that Dr. J. Ashburton Thompson has become chief medical adviser to the Colonial Government and President of the Board of Health. The desirability of entrusting these posts to an expert in practical hygiene, whose whole time should be devoted to public health work, has been generally acknowledged for many years past, but the Government has only now carried out the arrangement. At the beginning of the present year a general demand that the civil service should be differently managed resulted in its administration and reorganisation being placed in the hands of three commissioners unreservedly; political influence having thereby been eliminated, the new departure became possible, and was immediately made. The Board of Health, which by successive Ministerial appointments had become swollen to unwieldy proportions, will now consist of five members besides the President. Dr. Ashburton Thompson has for nine or ten years past been the chief permanent medical officer in the service; he is well known to be highly qualified in public health matters and we congratulate him on his promotion.

CEREBRAL PARALYSIS IN CHILDREN AFTER INFECTIOUS DISEASE.

AT a meeting of the Wiener Medicinischer Club in November Dr. Rudolf Neurath read a paper of some interest on this subject. A short account of it appears in the last number of the *Neurologisches Centralblatt*. He related three cases, the first that of a child aged one year and a half who had measles followed by whooping-cough. Two months before coming under observation the child was suddenly seized with convulsions which were at first bilateral but subsequently became limited to the left side. The patient subsequently suffered from left hemiplegia of cerebral type. The second case was that of a child aged two and a half years who, also, while suffering from whooping-cough ten weeks before she came under observation, was seized with convulsions followed by paralysis of the right side, with loss of speech. The third case was that of a boy aged six years, who while suffering from whooping-cough developed the signs and symptoms of a bronchiectasis. Nearly two years after the onset of whooping-cough his mother noticed a gradual loss of power in the left side, and ever since the child had suffered from a condition of left cerebral hemiplegia. In none of the cases was there any sign of heart disease. Dr. Neurath discussed the nature of the cerebral lesion in these cases. He considered embolism to be unlikely, on account of the absence of valvular disease; and embolism from thrombosis in the heart, such as is said to occur in diphtheria, was scarcely to be considered. Hæmorrhage also was unlikely, on account of the fact that the healthy vessels of children are but little liable to rupture. The analogy between those cases of hemiplegia with the similar conditions occurring after scarlet fever, measles, small-pox, and the like suggested the possibility that the condition underlying the symptoms might be one of encephalitis caused by some toxic substance generated by the infectious disease, although the rarity of post-mortem examinations in the acute stage of the disease made it difficult to offer confirmatory evidence in support of this or any other view. The condition was possibly one of inflammation spreading widely from vessels in the brain in a manner similar to that described as occurring in some cases of poliomyelitis.

THE POLICE OR THE GENERAL MEDICAL COUNCIL.

WE are constantly meeting with cases of unsatisfactory coroners' inquests, owing in great measure to our loose system of death certification, and a case recently occurred at West Bromwich which well exemplifies the kind of thing we mean. An inquest was held by the coroner on the 24th inst. upon the body of a woman aged fifty-nine years who died suddenly on the 20th inst. She suffered from cancer in the breast and was attended by a Mrs. ——, an unqualified person of Handsworth. A medical man, whom we will call A., attended deceased once or twice, but not for the cancer, and when the patient died he declined to certify. Another medical man, B., however, had seen the patient once and that on the day previous to her death, and he certified that she died from cancer. In reply to the foreman of the jury A. said that from the appearance of the cancer on the previous Tuesday he was of opinion that the disease was not sufficiently advanced to account for the sudden death of the deceased. To a further question he replied that if the ointment prescribed by Mrs. —— contained a poison such as arsenic *it was* possible for death to be caused by absorption. A juror asked A. if he could state the cause of death. To this he replied he had not formed an opinion. The jury returned a verdict of "Death from natural causes," but added a rider to the effect that death was accelerated by want of proper medical aid. The General Medical Council might, we think, inquire into the matter, and the proper authorities should investigate Mrs. ——'s ointment. The verdict of the jury, too, seems to us most unsatisfactory.

THE OHIO STATE MEDICAL SOCIETY AND ANTI-VIVISECTION LEGISLATION.

THE Ohio State Medical Society has lately passed important resolutions in order to make a decided stand against the growth and influence of that fanatical and inconsistent sect—the anti-vivisectionists. Their fanaticism is clearly shown by the false representations and other underhand means to which they will resort to forward their cause, and their inconsistencies are shown by their everyday life in which they, by their modes of living and actions, directly encourage the slaughter of animals. Dr. Pilcher, in his address to the Ohio State Medical Society, points out many facts which should influence most people. He tells how "the most rabid anti-vivisectionist will masticate his cutlet of veal or his shoulder of lamb all regardless of the joyous young life which has been rudely terminated merely to gratify the animal appetite of the alleged defender of our dumb animals," and then refers to a subject with which we have quite lately dealt—viz., the destruction of thousands of birds for the sake of their plumes. Having

thus dealt with the logical side of the question, Dr. Pilcher next narrates some of the important results which have been obtained from this form of research, and which have been the means of saving countless human lives. He shows that in the war of the rebellion 3273 out of 3717 cases of wounds of the intestine were fatal, while now, since the operative procedure has been advanced by experiments on dogs, the mortality in these cases has been reduced to 10 per cent. We sincerely hope that this medical association will be able to effectively hold its own and prevent the passing of laws which tend to retard science and civilisation.

ABDOMINAL SURGERY AT NEWCASTLE-ON-TYNE.

THE series of abdominal cases (which will be found in another part of our present issue) reported from Newcastle by Mr. W. H. Vickery is extremely interesting, and the plan of publishing a complete record of the cases of abdominal surgery occurring within a certain period is well worthy of imitation. The cases were all operated on within the first six months of this year and embrace every department of the surgery of the abdomen. We congratulate the surgeons of the Newcastle Infirmary on the excellent results obtained.

THE HEALTH OF CHICAGO.

WHEN, three years ago, we undertook an investigation into the drainage and water-supply systems of the city of Chicago[1] we acted primarily in the interest of our own countrymen who, in the year 1893, were visitors to the great exhibition; but, as we then remarked, the matters examined were of even more abiding importance to the residents in Chicago than to her visitors, and it was very gratifying to us to gather from the way in which our action was received by the city authorities that they took the same view. Since that date our own opportunities of collecting information concerning the sanitary history of the city have naturally been occasional only, but we have from time to time heard with a lively interest of the progress of the large engineering works required to secure efficient drainage on the shores of Lake Michigan and the effective use of the boundless supply of excellent water which the lake brings to the city's door. A return from the Bureau of Vital Statistics, for a copy of which we are indebted to the courtesy of the Commissioner of Health, shows that the effect of the water-supply upon the health of the city is made the subject of constant and watchful attention and certainly the results of the observations made illustrate in a very striking manner the close—we might even say exact—relation between the two. This is well exhibited by a diagram which accompanies the Commissioner's report for the month of June last in which the mortality-rates from intestinal diseases for six months are collected. Upon this diagram one curve shows the varying condition of the water-supply, the badness of the water in the sense of pathogenic quality being measured by the height of the curve in successive weeks; a second curve shows in the same way the weekly series of mortality-rates due to typhoid fever; and a third a corresponding series of mortality-rates due to other acute intestinal diseases, such, apparently, as enteritis, gastro-enteritis, and diarrhœa. Between the water curve and the second mortality curve the correspondence is most striking. The water-supply was at its worst in the week ending Dec. 28th last; the mortality from intestinal diseases was greatest in the following week. The water curve shows culminating points in the weeks dated Jan. 25th and Feb. 15th, in each case followed by a maximum point in mortality from intestinal diseases a fortnight later. A marked amelioration in both conditions is indicated throughout the month of March, but in April, May and June the water-supply became again pathogenic and within a week the mortality curve exhibits a corresponding increase, both curves approximating closely to that reached by them respectively in the month of January. In fact, the dependence of the one upon the other might almost be expressed by a mathematical formula. In the case of typhoid fever the correspondence is not so close and the difference is characteristic. The bad water maximum of December is followed after an interval of five weeks by a typhoid fever maximum in the end of January, and although the typhoid fever curve does not respond with the same precision as the curve of other intestinal diseases to the water maximum of the following April there is a traceable rise in typhoid fever mortality during June and it is matter of common observation that this disorder is less rife in the spring than in the after part of the year. Altogether the statistics produced from the health department of Chicago are most suggestive, eminently instructive and of much more than simply local significance.

[1] Report of THE LANCET Special Sanitary Committee of Inquiry concerning the Water-supply of Chicago, U.S.A., THE LANCET, April 8th, 1893.

DIET AT THERMAL STATIONS.

SEVERAL of the practitioners at one of the French watering-places have written to a medical journal drawing attention to the unsuitable *menus* ordinarily provided in the hotels and boarding-houses frequented by invalids. Patients with gout or diabetes, sufferers from infirm livers and stomachs, are confronted twice daily with a succession of succulent dishes which it would be beyond the self-control of an anchorite to dismiss untasted. Under these conditions the restorative qualities of the waters would need to be well-nigh supernatural in order to counteract the pernicious effects of the too tempting dainties. What is required to remedy the evil is the introduction and strict observance of diet tables, as in Germany and Austria where the various establishments owe a great portion of their success to the strict attention that is paid to regimen. The French thermal stations are at least as well appointed as those of other countries, and their waters are equally efficacious in the treatment of diathetic and chronic diseases, but unless more care is bestowed upon the regulation of diet the signatories of the letter are convinced that sooner or latter the consequences will be disastrous. No doubt the question of food is of the utmost importance in the management of cases which for the most part owe their origin to excesses at table, and it is certainly advisable that patients of this class should not be exposed to temptation. Human nature is weak, and it is a difficult thing for most people to double the parts of Sancho Panza and the physician.

FRENCH FISHERMEN IN NEWFOUNDLAND.

ACCORDING to Dr. Cazeau of the French Navy his countrymen who frequent the shores of Newfoundland for fishing purposes lead very hard lives. In the various harbours where there are curing establishments the rules of hygiene were in no wise consulted when sites for habitations were selected. Formerly, when cod fishing was more remunerative than it is now, a great many of these buildings were erected, but all have fallen more or less to ruin. At the commencement of each season such as still afford some degree of shelter are utilised, the dilapidations being temporarily repaired in a rough-and-ready fashion. The stores for the preparation and packing of the cod fish and lobsters are described as models of cleanliness, but any hovel is good enough for the men to eat and sleep in. Built of rough-hewn logs, with double rows of berths along the sides, they are entirely destitute of furniture, containing only huge chests for personal belongings, including a private stock of fish. The floors consist of the bare, damp earth, worn into mud by constant traffic, and never by any chance

swept, although they are made the common receptacle for fish remnants and refuse of every description. Afloat the sanitary condition of the unfortunate sailors is still more deplorable. It is difficult to imagine what the sleeping quarters of a "banker" are like except from personal inspection. Cleanliness is unknown, mephitism and humidity reign supreme—in a word, the state of repulsive filth is indescribable. The cargo part of each vessel is strictly supervised, but nobody cares about the overcrowded dens where the crews are herded. In the English and American boats there are appliances for drying clothing, &c., but nothing of the kind is provided by the French owners. In the matter of food there are happily less grounds for complaint and scurvy is now never heard of. On shore excellent bread is obtainable *à discretion*, many of the men when the work is exceptionally hard consuming as much as 4 lb. each per diem. At sea biscuit is used with potatoes and salt pork, but the staple of each meal is fish made into ragout or soup. Each "hand" is also allowed 250 grammes of butter per week and the same quantity of Normandy grease, a well-known commodity prepared from beef suet with spices, salt, and the extractive principles of various pot-herbs. As regards drink French Newfoundland fishermen are far too liberally supplied. At mid-day every man draws a quart of wine, and commencing with the hour of his uprising he also receives during the day a series of drams of brandy amounting in the aggregate to more than the third of a litre. This is the ordinary allowance, but extra drams are granted on the smallest pretext, and most of the men consume half a litre every twenty-four hours. The brandy for the most part is made in Germany, and at 96° costs about sixpence a litre. Before distribution it is diluted by half, but the quality leaves much to be desired. Spruce beer, which is also drunk in large quantities, being manufactured on the spot, is a far more wholesome beverage. Notwithstanding their insalubrious mode of life the men, it is said, all enjoy robust health. After a season of Newfoundland, observes Dr. Cazeau, a medical man might almost feel disposed to keep silence when the virtues of hygiene are under discussion.

POISONOUS COPPERED PEAS.

THERE has been considerable argument in connexion with cases of prosecution in the courts as to whether coppered peas are injurious to health. The following notes of a case, forwarded to us by Mr. P. Carmody, F.I.C., F.C.S., Government analyst in Trinidad, though not absolutely conclusive, leave small room for doubt that the practice of coppering peas is dangerous and should be prohibited by law. In Port of Spain, Trinidad, in 1890, a large banquet was given at the Masonic Hall. As is usual at banquets, the food was of a very miscellaneous nature. Twelve or thirteen hours after, the boy who helped in the kitchen, and who was believed to have partaken of every dish that was served at the table, was seized with severe abdominal pains accompanied by vomiting and purging. On the following day he died; a post-mortem examination was held and the internal organs submitted to the Government analyst for analysis. The cook under whom he served at the banquet suffered similarly, but received medical treatment and recovered. At this time there was no suspicion of poisoning. In two or three days, however, it became generally known that several of the guests had sought their respective medical advisers for the treatment of symptoms exactly similar to those of the deceased boy and the living but still suffering cook, and it was then for the first time suspected that the cause of this illness must have originated at the banquet. No clue of any value could be obtained. The majority inclined to the opinion that the poison was administered intentionally and maliciously. That an irritant poison had been used there was no longer any doubt. The analysis of the deceased boy's organs, however, revealed nothing but traces of zinc and copper in quantities too insignificant to account for death. This would hardly have been considered of any material consequence were it not for the fact that in the case of the guests three alvine evacuations, five urines, and one vomit all contained traces of copper. Tins of *petit pois* formed part of the banquet, and all those who had suffered had partaken of them. On examining tins of peas similar in brand to those used at the banquet some were found to contain as much as six grains of copper sulphate per pound, the majority between three and four grains. Mr. Carmody then concluded that the copper in the peas was the cause of the mischief. Yet, as he observes, the difficulties in the way of arriving at this conclusion indicate what may be expected in less severe cases. The vomit and purgings of the boy had been thrown away, and their violence and extent would account for the almost entire absence of copper in the stomach. In the case of the guests four or five days had elapsed before the samples above referred to were collected, and during this interval there had been administered medicinally to one of them five poisonous substances, to another four, and to others three or two. All these had to be allowed for and considered. The difficulties surrounding this case, adds Mr. Carmody, were—"(1) the absence of any definite clue; (2) the rapid elimination of the irritant by purging and vomiting, aided in some cases by the medicines administered; (3) the interval that elapsed before the connexion between the feast and the illness was established; (4) the possibility that the cause might be found in some of the many other articles of food used on the occasion; and (5) the interference caused by the drugs administered medicinally. But notwithstanding these no other conclusion could be arrived at under the circumstances than that the peas consumed caused this injury to health." We may remark that the Food Products Adulteration Committee merely observe in their report that there is reason to think that peas so coloured have in some cases proved injurious to health, and it has therefore been urged as desirable that a limit to the use of this colouring agent should be fixed. Should the Legislature tolerate the practice any longer we hope that it will be insisted that the tins be labeled to the effect that the peas are coppered, so that if any harm should accrue proceedings may without delay be taken against the fabricator—the only correct word which can be applied to such a person.

THE EASTBOURNE WATER-SUPPLY.

THE various complaints which have been made of late as to the water-supply of Eastbourne have had, it must be allowed, a very fair foundation. Water containing 16·5 per 1000 of sodium chloride and calcium chloride cannot be very palatable or wholesome to drink. The presence of an abnormal quantity of calcium chloride shows that the salinity of the water cannot be due simply to leakage from the sea into the water-bearing strata, but the fact of the presence of salts undesirable in a drinking water remains. The Eastbourne Water Company have, however, since August 12th been supplying a pure chalk water of 13° hardness by means of standpipes, and are hoping to have a house-to-house service in a short time. The other water is still in use and many people continue to use it to the exclusion of the new supply. In addition to the Holywell source new borings are being driven in the chalk to take the place of the present well in the green sand. The town is exceptionally healthy, the death-rate for the half year ending June, 1896, being only 10·1. We congratulate the sanitary board and Dr. Willoughby, the medical officer of health, upon this result, and now that palatable and wholesome drinking-water can be easily obtained there is no reason why people should

avoid a seaside resort which is probably one of the most sanitary towns on the South coast.

WE regret to hear from Brighton of the death of Mr. William Gurner, who was for twenty years Bedell of the Royal College of Physicians of London. On his retirement some few years ago he was granted a pension by the College and went to live at Brighton. Soon after settling there he met with an unfortunate accident whereby his leg was severely injured, but he recovered from the effects of the injury and the remainder of his life was peacefully and happily spent. Members of the profession who have been candidates at the various examinations of the College will remember him as possessing under a rather abrupt manner a true kindness of heart and a disposition ever ready to oblige. We understand that his family have received more than fifty letters of sympathy—sufficient evidence of the great respect and esteem in which he was held.

IN the September number of the *Fortnightly Review* will be found an interesting paper by Dr. J. B. Crozier entitled "A Modern View of Jesus Christ." The writer has undertaken the difficult task of treating the human nature of Christ altogether apart from the Divinity, and this to any one who believes in the dual nature of Christ is almost an impossibility. In fact, the very words Christ and Christian imply orthodoxy upon the question of the Incarnation. "Christ" is a title, not a name, and those who rank Jesus merely as a reformer along with Buddha, Swedenborg, and John Howard would more properly be called Jesuits or Nazarenes. The paper, however, is one that deserves to be read. It is stimulating and thoughtful and singularly free from dogmatism.

DR. NICHOLAS RÜDINGER, Professor of Anatomy at Munich University, died on Monday last at Tutzing in Bavaria. Dr. Rüdinger was Professor of Anatomy at the Anatomical Institute at Munich, having held the post for sixteen years. His chief works dealt with topographical anatomy, and he was very successful in applying photography to the purposes of illustration.

THE *Edinburgh Medical Journal*, established by Messrs. Constable and Co. in 1805 under the title of the *Edinburgh Medical and Surgical Journal*, has been acquired from its present proprietors by Mr. Young J. Pentland. A new series of the journal, under the direction of Dr. George A. Gibson, assisted by a staff of well-known contributors, will be begun with the issue for January, 1897.

MR. CHAPLIN has stated to the Metropolitan Vestries that he will consider their request that the administration of the Vaccination Acts should be placed in their hands instead of in those of the Board of Guardians when the Report of the Royal Commission on the subject reaches his hands.

THE fourth International Congress of Criminal Anthropology was opened at Geneva on Monday and closes to-day (Saturday).

THE CARE OF INEBRIATES.—The sixteenth report to Parliament of the inspector of retreats under the Inebriates Acts (1879 and 1888) for the year 1895 has just been issued. The inspector (Mr. H. W. Hoffman) submits in this document the rules made by the Secretary of State for the management of these establishments and full information as to their situations and the names of their licensees, and comes to the satisfactory conclusion that he has reason to be satisfied with the general condition of them all. In the aggregate 130 patients were admitted to the ten houses licensed. In 1894 the number of admissions was 133.

REPORT OF

The Lancet Commission

ON THE

BALNEOLOGICAL AND GYMNASTIC TREATMENT OF HEART DISEASE AT NAUHEIM.

As the journal which has done more than any other, by papers which have appeared in it, to make known to the profession in this country, and indirectly to the laity also, the methods and results of treatment at Nauheim, a responsibility has rested with THE LANCET to ascertain so far as possible for itself the reliability of the information to which it has given currency. In doing so it is not in any way necessary to call in question either the ability or good faith of exponents of the method, but it will be admitted that it is most desirable that an organ possessing the legitimate influence which THE LANCET may without presumption claim to exercise should take steps to inform itself upon the subject. We accordingly desired our Commissioner to investigate the methods in question on the spot with as much impartiality and absence of bias as possible. In the execution of his mission he called upon two representative members of the profession in Nauheim, to wit, Dr. Theodor Schott, whose name is so well known in association with the treatment in question, and Medicinalrat Dr. Groedel, from both of whom he received much kindness and every assistance in his investigations. To them, as well as to Professor Newton Heineman of New York, who acted in concert with Dr. Schott, and to Dr. Göhler, the assistant of Dr. Groedel, he desires to express his grateful acknowledgments.

The pleasant little town of Nauheim, intersected by leafy avenues, is situated on the north-eastern slope of the Taunus range at an altitude of 460 feet above the sea level. From its situation and the disposition of its buildings a visitor to the town is sensible of a certain freedom in the circulation of the air and a freshness in the atmosphere recalling health resorts at a greater altitude. Even in hot and sultry weather there seems to be an absence of the oppressive heat experienced in situations of a more sheltered character. Built, as it is, at the foot of a hill, there is a gradual ascent in the street gradient hillwards, which the pedestrian may convert into a climb by gaining the summit of the Johannisberg or by exploring the hill country in the neighbourhood. For the less robust a map of the easier walks, ascending and level, is to be obtained; but this "terrain-kur," as will presently be seen, no longer forms a prominent feature of the treatment at Nauheim.

The waters of Nauheim for the present purpose may be roughly divided into the bathing and drinking waters, of which the former are much the most important. The sources of the bathing waters are the Great Sprudel or Spring No. 7, and the Friedrich Wilhelms-Quelle or Spring No. 12, of which the latter is the more copious, the warmer, and that which contains the greater percentage of salts, while the former contains most carbonic acid. The temperature of No. 7 is 31·6° C., or 88·8° F., and of No. 12, 35·3° C., or 95° F.

The water which is not required for bathing purposes is conducted to the salt works in the neighbourhood, where the Gradirgebäude or evaporating screens form a grateful shelter from the heat in warm weather. From these salt works is obtained the mutterlauge or motherlye for imparting additional saline potency to the baths, the temperature of which may be further manipulated by the addition of ice when it is desired to reduce their normal warmth. Although an ordinary brine bath of any temperature or strength, artificially regulated, may be obtained at Nauheim, the baths chiefly used by patients are (1) the "Thermalbäder" or thermal brine baths either from both springs combined or from one alone. In these there is a minimum of carbonic acid, and, coming as they do from the open reservoirs, they have a turbid, yellow-red appearance from ferruginous salts present; (2) the "Sprudebäder" or effervescent baths, which, being conducted from the bowels of the earth into the baths, have the normal warmth of the springs and a maximum of carbonic acid gas. There is, however, within the depths a deeper still, and (3) the "Strom-sprudelbäder," or the baths

in which, in addition to warmth and carbonic acid, there is a constant current of salt water entering and escaping from them, are the most powerful of the therapeutic baths at Nauheim and usually the last to be prescribed.

In administering the baths it is usual to commence with the normal temperature of the saline waters, and the patient is directed to remain in them for short periods (from seven to ten minutes) which are gradually lengthened. With the increased duration of the baths the temperature is gradually lowered until it reaches about 28° C., their salinity and carbonic acidity being also gradually increased. In commencing these baths the pauses between them—that is, the days upon which no baths are taken—are more frequent than later in the course, and the condition of the patient should at the same time be carefully noted, so that bathing may be interdicted if necessary. It is not unfrequently necessary for a patient arriving in Nauheim to rest quietly for some days before any bath is taken. That these precautions are absolutely necessary is proved by the fact that, like all agencies potent for good, the baths unskilfully employed are likewise capable of exerting an evil influence. It is of interest in this connexion to state that in an old account of the mineral springs of Nauheim, written by Dr. Roturcau of Paris and translated by Dr. F. Bode in 1856, it is expressly stated that, far from benefiting cases of organic heart disease, the waters of Nauheim had been found to be actively pernicious, causing disorders of the circulation, blood-spitting, &c. (p. 150). This, however, can only be regarded as an indirect testimony to their possible utility under the conditions of wiser use which now prevail.

The effect of the baths.—The conclusion at which our Commissioner arrived from his observation of many cases of cardiac disorder, with and without valvular lesion, was that, carefully employed, the effect of the baths was to diminish the pulse-rate and strengthen the heart force up to a certain point, after which a continued immersion was apt to cause enfeeblement and irregularity of the heart's action, and that proper supervision consisted in stopping the bath when the maximum good had been attained. To determine this point the presence of a physician or of a well-trained attendant in his absence seemed to him to be both desirable and necessary. As regards the effect of the baths upon the cardiac dimensions, our Commissioner was able to determine that with the increased force of cardiac contraction the apex beat—the most mobile portion of the heart—when displaced outwards tended appreciably to assume a more normal position, but that a very noticeable contraction of the general area of cardiac dulness was difficult to determine. The gradual diminution, however, of the cardiac area after improvement to the limits possible in given cases could be made out after the use of these baths as it may be after the use of any remedies or circumstances which bring about an amelioration in cases of cardiac failure. A very remarkable shrinkage of the cardiac area he was not fortunate enough to observe, and was, however, informed by experts on the spot that this was only very occasionally noticed. Of the beneficial effect of properly used baths, even in the absence of any exercises, he was enabled from observation to assure himself. The subjective sensations of one immersed in these waters are a very tolerable degree of coolness passing into a sense of warmth, the external manifestation of which on leaving the bath is a degree of reddening of the skin.

The gymnastic treatment of heart disease at Nauheim.—In referring to this subject our Commissioner desires to draw a distinction between the gymnastic treatment of heart disease in general and the method practised by Dr. Theodor Schott. Whatever inspiration in the development of their system the late Dr. August Schott and Dr. Theodor Schott may have derived from the well-known series of Swedish gymnastics the interesting fact remains, as related to our Commissioner by Dr. Theodor Schott, that in seeking by gymnastic movements to propel the blood more vigorously to the nerve centres in the case of neurasthenics they found that, contrary to expectation, they retarded the pulse while increasing the cardiac force in so doing. They had the acumen to conclude that they could thus safely manipulate the vascular system in cases of cardiac disorder, and the event has shown that their surmise was well founded. Moreover, whatever historical importance may be attributed to the devisers of Swedish gymnastics it is indisputable that the brothers Schott have done more to emphasise the therapeutic value of these movements in cardiac disease than any other observers. However objectionable, moreover, it may be from an ethical point of view—and it is an objection shared by Dr. Schott—that therapeutic measures should bear the names of individuals there is a certain convenience in associating the names of these physicians with their system, inasmuch as it differentiates it from modes of treatment by exercises less minutely regulated. In conversation Dr. Theodor Schott never wearies in affectionately ascribing to his late brother the greater glory as the originator of the system which he now practises in Nauheim. The principle of these exercises, as is well known, is the gradual provocation of the motions of which the muscles are capable—namely, the movements of flexion, extension, adduction, abduction, and rotation, while at the same time the patient is directed to breathe as equably as the movements undergone will conveniently permit him to do. Inasmuch as the effort involved in executing some movements is greater than in making others, and inasmuch also as the dose of resistance, so to speak, varies with the condition to be dealt with, skill in the use of these movements is necessary in addition to a general knowledge of their character. Dr. Schott's experience leads him to prefer the employment in all cases at Nauheim of a well-trained masseur, who can note the condition of the patient and adapt the resistance he offers to the efforts of the patient to the capabilities of the latter. The "Schott" system, then, as at present practised consists in a certain regulation of the baths on the lines already mentioned, and in the exclusive use of *manually* administered gymnastics by masseurs trained by Dr. Schott or by those who have had experience of the resistances which he has come to deem appropriate under given circumstances. Dr. Groedel, on the other hand, our Commissioner observed, in addition to the use of manually provoked resistance on the lines of Swedish gymnastics, also regulated according to circumstances was in the habit of prescribing in the case of his more robust patients the regulated use of the mechanical instruments in the Zander Institute at Nauheim. The patients taking these exercises did so under the eye of his assistant, Dr. Göhler. The conclusion at which our Commissioner arrived was that the exercise-provoking machine, whether human (masseur) or mechanical, required as much skilled supervision as the baths, and that, generally speaking, the human instrument, as more controllable, was, when possible of employment, the more desirable means to use. Both methods, however, carefully checked, are capable of yielding good results. In expressing himself thus he believes himself to be in accord with both Dr. Schott and Dr. Groedel.

The effect of gymnastic exercises.—After an observation of numerous cases of "organic" and "functional" cardiac disorder the conclusion arrived at was that these exercises had an indubitable influence upon the vascular system, the general effect being to increase the force of cardiac contraction, to enlarge the pulse wave perceptible in the radial artery, and to bring the apex beat nearer the middle line of the body. These were the beneficial effects noted, but, just as in the case of the baths, any over-exertion was apt to be followed by evidences of cardiac failure instead of invigoration. While, on the whole, our Commissioner was satisfied that a greater effect was produced by the exercises than by the baths on the area of cardiac dulness, he was again unfortunate in not having had an opportunity of observing any case of such remarkable shrinkage of the cardiac area as some others are stated to have observed. Nor could he altogether satisfy himself that his clinical processes were at fault, as others who examined the cases in question with him were equally unfortunate in most instances and on most occasions. The exceptions, with every desire to ascertain the truth and to do justice to those who indicated them, were not, in his opinion, indubitable exceptions. But here, again, he was informed that remarkable shrinkage was not of common occurrence and that an excessive effort to provoke such was undesirable in the interests of the patient. When in successful cases compensation has been established or restored it is at times permitted to patients at Nauheim to ascend gentle heights in the neighbourhood, and to take more extended walks than during an earlier period of treatment, but as far as our Commissioner could ascertain Dr. Oertel's treatment as generally understood only played a subsidiary and late *rôle* in the treatment of cardiac cases at Nauheim. It should be stated that none of the methods in use there are regarded as incompatible with the contemporaneous use of cardiac tonics such as digitalis or strophanthus, or

with other remedies used *secundum artem*. Indeed, our Commissioner had reason to conclude from his observations that cases of cardiac breakdown which had resisted the use of cardiac remedies ordinarily applied responded to treatment under the combined use of baths and drugs—both contributing to the favourable result. The mode of life of patients under treatment at Nauheim, apart from considerations of exertion and rest, is also in a measure regulated, but to those accustomed to the minute restrictions placed upon dietary by some distinguished physicians, the hotch-potch of multifarious ingredients and numerous courses at *tables d'hôte*, of which patients even with a degree of anasarca may be observed to partake, appears at first somewhat heterodox. And it is probable that greater care in this respect could not be otherwise than beneficial. With reference to the restrictions of fluids: regarding Dr. Schott and Dr. Groedel as two representative members of the profession in Nauheim, the latter, who draws his inspiration more directly from Dr. Oertel of Munich, imposes greater restrictions than does Dr. Schott, but even Dr. Groedel departs widely from the very restricted consumption of fluid advised by Dr. Oertel. Tobacco, coffee, and alcoholic stimulants are largely and wisely interdicted.

On the completion of the course at Nauheim, as at many other watering-places, a "nachkur" is in many cases considered advisable—that is, a period spent without the routine of bathing and exercising and the fatigue attaching thereto, at a suitable altitude for given cases, and in suitable surroundings, where, *procul negotio*, the patient may consolidate the benefit derived from his previous treatment. That this is in many cases a necessary precaution is certain, as also that its neglect is fraught in many cases with danger. Of the latter our Commissioner had experience of a sad example. And this leads to a short consideration of unsuccessful cases. It was not to be expected, and it is not maintained, that all cases of heart disease at all stages are appropriate for balneological and gymnastic treatment either at Nauheim or elsewhere. Nay, more, cases which have at one time benefited by the treatment may respond only imperfectly if at all on a subsequent occasion. The jubilant convalescent of one year may be the "Todtes candidat," as the Germans trenchantly express it, of another. But does not this also apply to every other mode of treatment? That there are not a larger number of unsuccessful cases at Nauheim—and our Commissioner had few opportunities of observing such—is probably due to the fact, apart altogether from the effect of the waters and the methods of treatment, that the majority of those travelling to Nauheim have a degree of potential or actual cardiac compensation indicative of a fair residuum of reserve force. Patients also, however, it must be conceded, take the journey and benefit from the treatment whose chances of recovery on their arrival and on the most cautious prognosis would have been considered highly problematical. As regards the *kind* of cases submitted to treatment at Nauheim, our Commissioner came to the conclusion that this was determined rather by the state of the individual patient than by the intrinsic nature of his complaint. Moreover, cases may derive a certain benefit from carefully supervised balneological treatment which would most probably be injuriously affected by the mildest exercises. Thus he has notes of cases of aneurysm—one with paralysis of the recurrent laryngeal nerve—which underwent bathing, at any rate with impunity, notwithstanding an influencing of the pulse-rate in the direction of retardation. On the other hand, some cases which do not improve with baths alone do so when these are used in combination with resisted movements, or with these in addition to cardiac tonics such as digitalis. Speaking generally, however, it may be regarded as certain that the cases most suitable for treatment at Nauheim are those which respond best to treatment elsewhere—namely, enfeebled hearts with or without well-marked dilatation and with or without organic valvular lesions. That in the balneological and gymnastic treatment of such practitioners have a valuable adjuvant source of help which can no longer be ignored our Commissioner after sufficient investigation was able to assure himself.

Conclusions.—It would manifestly be out of place in a statement of facts and observations such as the report before our readers to enter into scientific speculation as to the physiological factors playing a part in clinical phenomena and therapeutic results. It may, however, be concluded from the facts stated that Nauheim is favourably situated geographically for the treatment of many cardiac cases; that it is most fortunate in its possession of richly saline and gaseous thermal waters; that these have a marked influence for good or for evil, according to skill in their use, upon the vascular system; that in the carefully regulated and supervised "Widerstandsgymnastik" or resisted movements there is likewise a powerful means of influencing the heart's action, but that, as in the case of other powerful agents, the physician must be content to observe their effect slowly develop and not by rapid and extraordinary shrinkage in the cardiac area, which can only be attained as a rule, if attained at all, by imposing a strain upon the patient which it is well to avoid. If these conclusions be correct it is, moreover, desirable, in the interests of the public, of the profession, and of science, that a "system" about which there is absolutely no more mystery than there is in the skilful use of any remedial means whatsoever, and which with instruction and observation should be quite as capable of utilisation by any practitioner as digitalis or any other cardiac agent, should receive consideration from those in this country whose education, opportunities, and status entitle them to speak with authority. Not so checked, in all probability, ethically and physically, it is capable of abuse and mischief. If this adjuvant means of treating cardiac failure becomes discredited, like its forerunners initiated by Dr. Stokes of Dublin and developed by Dr. Oertel of Munich, this will be due rather to the extravagant encomiums of too enthusiastic advocates than to the cautious observation and sceptical criticism of those more difficult to convince. Finally, in all investigations bearing upon the points in question it is desirable that there should be a general consent in the methods employed, so that the personal equation of the observer may be eliminated as far as possible and facts be verifiable by clinical processes in common use.

"A CONTRIBUTION TO MEDICAL GEOGRAPHY."

"IT was in 1855 that a Frenchman, Henri Lambert, Consular Attaché at Aden, and formerly a first class naval volunteer, discovered Obock." Such is the opening sentence of an interesting article in the *Archives de Médecine Navale et Coloniale* for June, by Dr. Bartet, on the French settlements in the Gulf of Aden at the mouth of the Red Sea. In 1862 some traders first occupied the barren spot, but it was not until 1884 that it became an official "colony" with a garrison composed of artillery and marines. The territory under French control is not very extensive, comprising some 4800 square kilometres of sandy desert where nothing ever grows except an occasional clump of spinous mimosa. It is easy to imagine, therefore, that the general aspect of the place should be one of "poignant desolation"; but, as malaria is unknown, it possesses the advantage of being extremely healthy. The author naturally devotes a large part of his space to a description of the hospital, but it is evident from his account that the building is in some respects unsuited to the requirements of the climate. It consists of two or three low wooden pavilions with tiled roofs, standing on dwarf plinths and surrounded by verandahs; but although the windows are both spacious and numerous they nearly all look north and south, thus affording free access to the burning winds which prevail throughout June, July, and August. For the accommodation provided in these sheds the charge to Europeans is 25 fr. per diem for officers and 17 fr. for men, so it is not surprising to find that commanders endeavour to keep their sick on board ship as long as possible. Outward-bound vessels as a rule disembark typhoid fever cases, but the invalids that are left behind on the return journey are mostly suffering from dysentery. In spite of the defective shelter the patients, generally speaking, do well, provided the "khamsin" is not blowing. The native quarter of Obock is thus described:—The main, and only, street, in which are situated the market and a few Arab houses built of stone, serves as nucleus to the miserable huts constituting the Somali village. These primitive habitations are constructed of the gnarled mimosa branches stuck in the ground and covered with fragments of rags and matting. Never more than six feet in height, and frequently less, the windowless interiors are rendered still more obscure by the pungent smoke from fires that are fed with animal excreta; while to add to the discomfort of the human occupants, whose live stock (when they possess any) always shares

their dwellings, the confined space swarms with flies and vermin of every description.

During the hot season Obock must be anything but a pleasant place of abode. A khamsin wind sometimes blows for seventeen days at a stretch, but happily such persistency is rare, or else life could not be sustained. The effects of a khamsin make themselves felt throughout the whole of animated nature. In man both the pulse and respiration increase in frequency, a burning sensation attacks the eyes, the throat is parched, a raging thirst sets in, and insomnia adds its horrors to the already overcrowded list. No sooner does the wind begin to blow from the north or north-west than a feeling of utter depression overtakes the body, while the mind becomes dull and apathetic. People with plump faces grow wrinkled and old-looking from the drying up of their skins, and those already naturally disfigured by advancing years resemble mummies. Some idea of what a khamsin is like might be obtained by standing before a baker's oven just as it was being opened, but in this case the blast, although unpleasant, would at least be free from admixture with clouds of fine hot sand. Many as are the attempts that have been made by meteorologists to account for the occurrence of these terrible winds, so well known under different names in various parts of the world, Dr. Bartet does not believe that anyone has so far furnished a satisfactory explanation. One most remarkable phenomenon connected with a khamsin is the rapidity with which under its influence an atmosphere saturated with moisture becomes almost absolutely dry. A hygrometer marking 95° has been known to fall below 10° in a few minutes.

Within the last few years a supplementary station has been established on a site called Djibouti, twenty-four miles south of Obock. Dr. Bartet speaks of it as a rising place, and quite recently the local headquarters of the Messageries Maritimes was transferred thither from Aden. Amongst other advantages Djibouti includes a splendid harbour, and the khamsins are scarcely felt there, and as all the caravans for Harrar and the interior make it their starting-point the trade is something considerable. As yet there is no hospital and the general sanitary condition leaves much to be desired; but, although the various plateaux on which the buildings stand are surrounded by mangrove swamps the place is said to be healthy. The author concludes his paper with a few words about Aden, where he spent some time. The civil hospital in the Crater Position is described as "une magnifique institution" where admirable surgical work is carried on gratis in the case of poor people, whilst those able to pay are charged 65 centimes per diem. At the European General Hospital, Steamer Point, the daily tax varies from 2 francs to 4 francs 20 centimes. "Quelle différence avec Obock!" says Dr. Bartet in conclusion.

THE INTERNATIONAL MEDICAL CONGRESS, 1897.

AT a recent meeting of the Executive Committee of the International Medical Congress, held in Moscow, the following were elected as members of the National Committee for Ireland:—President: Sir William Stokes, Surgeon in Ordinary to Her Majesty the Queen in Ireland. Secretary and Treasurer: William Thomson, F.R.C.S.Irel., President of the Royal College of Surgeons in Ireland. Sir John Banks, K.C.B., Physician in Ordinary to Her Majesty the Queen in Ireland; T. W. Grimshaw, M.D. Dub., President of the Royal College of Physicians of Ireland; James Little, M.D.Dub., President of the Royal Academy of Medicine in Ireland; Sir Charles Cameron, Professor of Hygiene, Royal College of Surgeons in Ireland; J. Charles, M.D. R.U.I., Professor of Anatomy, Queen's College, Cork; James Cuming, M.D. R.U.I., Professor of Medicine, Queen's College, Belfast; D. J. Cunningham, M.D. Dub., D.C.L., Professor of Anatomy, Trinity College, Dublin; R. J. Kinkead, M.D.Dub., Professor of Obstetrics, Queen's College, Galway; Surgeon-Major-General Preston, M.B. Dub., A.M.S., Principal Medical Officer in Ireland; Sir C. Nixon, M.D.R.U.I., Professor of Medicine, Catholic University of Ireland; Sir P. C. Smyly, M.D. Dub., Surgeon in Ordinary to Her Majesty the Queen in Ireland; and E. H. Swanzy, F.R.C.S.Irel., Surgeon to the National Eye and Ear Infirmary.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XXXIV.

Wakley Heads the Poll at his Second Election.—His Revolutionary Amendment to Queen Victoria's First Speech.—His Attitude towards Chartism.—The Case of the Glasgow Cotton Spinners.—Sir James Graham's Vaccination Bill.—Extra-mural Burial.—Infanticide and Illegitimacy.—General Radical Views.—Wakley's Hatred of Lawyers.

IN July, 1837, Wakley came before the electors of Finsbury for the second time, a new Parliament having been summoned on the occasion of the death of King William IV., which took place at Windsor on June 20th. His election address was very brief, consisting only of two or three sentences in which he avowed his intention of steering clear of all profuse expenditure and electioneering intrigue, and protested that he filled the part of Member for Finsbury with the keenest pleasure to himself, and not, he hoped, without profit to his constituents. He concluded by referring to the cordial assurances of support that he had received from all parts of the borough.

Opposition, however, came from a place where it was least expected. Mr. George Rogers, who had been the chairman of Wakley's committee in all his previous contests, successful and unsuccessful, for the representation of the borough, and whose efforts in Wakley's behalf had been sincere and exceedingly useful, suddenly announced his absolute hostility to his quondam friend's re-election. The exact cause of this defection does not appear, but that Rogers was in a furious state of anger and jealousy there is no doubt. He had counted for so much in the original winning of the seat for Wakley that Wakley's progress in the House unsupported by him seemed to him to constitute profound ingratitude. He had meant to lead the Member for Finsbury on a string, and he found that Wakley never responded to his little jerks. Rogers's opposition took the form of a pamphlet, in which he reviled Wakley as a breaker of pledges and a time-server. He wanted to hear the rant and fustian which he loved, and which, it must be admitted, Wakley had occasionally talked to mass meetings, shouted out in the House of Commons, and he saw in Wakley's attitude of moderation and observance of courtesy only sheer sycophancy. Before Wakley entered Parliament, complained Rogers, he had said that "he would glory in standing up alone in the House challenging corruption on its high altar and exposing it to the detestation of the country. ....." He had said that "his voice was too powerful to be put down by the 'ya, ya's' of puny beings whose brains were so pappy as to be unfit for the purposes even of dissection." But when he got into Parliament, so far from "challenging corruption on its high altar," he became "a member of the Reform Club and an associate of corruptionists." Poor Mr. Rogers did not effect much by his splenetic circular. He may possibly have caused Wakley a few qualms of regret for some of the more unbridled expressions that had been used by him on former occasions, but that he did not turn the

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., XIX., XX., XXI., XXII., XXIII., XXIV., XXV., XXVI., XXVII., XXVIII., XXIX., XXX., XXXI., XXXII., and XXXIII. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, May 2nd, 16th, 23rd, and 30th, June 6th, 13th, 20th, and 27th, July 4th, 11th, 18th, and 25th, and Aug. 1st, 8th, 15th, and 22nd respectively.

hearts of many voters from their former allegiance was shown by the following result at the poll:—

Wakley	4957
Duncombe	4895
Perceval	2470

Wakley thus headed the poll, obtaining the enormous majority of 2487 votes over his Tory opponent, who was Mr. Dudley Perceval, nephew of Spencer Perceval, Bellingham's victim. This was the largest majority obtained by any candidate at this general election.

In the first Parliament of our reigning Sovereign Wakley's earliest act was almost revolutionary. Never a Chartist either at heart or in profession he moved an amendment to the first speech of Queen Victoria from the Throne the tendency of which was very similar to that of much of the Chartist literature to appear a few years later. His amendment was a resolution in favour of the ballot and of shorter duration of Parliaments,[2] but only twenty Members voted with him. Wakley complained that the Ministry (Lord Melbourne's) had forgotten the fact that it had many Radical supporters, and spoke in favour of the ballot as giving working men a fair opportunity of choosing their own Members and so of assuring that their interests would be properly guarded. He described himself as a representative of labour having no connexion with any political circle or monopoly, and he called upon all other Members who had secured a seven years' lease of the House through the popular vote to support his amendment. But Lord John Russell, the leader of the Liberal party in the Lower House, declared that he could not countenance any such attempts to re-open the questions that had been settled by the Reform Bill. Wakley was his own teller, and among the twenty who voted with him were Hume, Grote, Sir William Molesworth, and Duncombe.

Lord John Russell's declaration was received by many outside the walls of Parliament with open displeasure, for, especially in the manufacturing quarters, the people had been led to believe that the Reform Bill was only the preliminary step to further changes to be effected in the immediate future. That Lord John Russell was right from a party point of view is very probable, but his speech on this occasion led to developments that Liberal and Conservative leaders alike were soon to find very impatient of management. A conference was held almost immediately between certain Liberal Members of Parliament and the heads of such organisations as were possessed by the working men. At this conference the claims of the working men were formulated, the following five things being demanded:[3] (1) universal suffrage, (2) annual Parliaments, (3) payment of members, (4) abolition of property qualification for Parliamentary candidates, and (5) vote by ballot. O'Connell is said to have had the fortunate inspiration of giving this programme the name of "The Charter," and at once the movement was launched that was to lead to ten years of trouble. Wakley's connexion with the Chartists was never close. He was one of the Liberal members present at the meeting when the people's demands were first defined. This was only to be expected, as it was his speech that had led up to the meeting and he was avowedly in sympathy with all popular aspirations towards self-government; but there his relations with this luckless movement ceased. He acknowledged the right of the people to be discontented, and was ready to be their mouthpiece in giving vigorous expression to the bitter suffering that was rife among artisan and labouring folk alike, but with the methods of the Chartists he could not go. He did not believe that their agitation would come to any practical ends. He thought that the leaders had begun wrongly in stirring up an agitation *outside* Parliament. His panacea for widespread political and social wrongs was proper representation of the people *within* the House, and he considered that triennial parliaments would secure this. By meeting their representatives more frequently and having more opportunities of ratifying their choice the people could ensure having their interests attended to. When a parliament had been chosen in which a majority of honest men was really pledged to the cause of the people the essential demands of the Charter would follow as a matter of course. Wakley considered that the programme of Chartism was overloaded and unpractical. He foresaw the enrolment under its flag of all sorts and conditions of malcontents, and he absolutely refused to take any personal part in the proceedings. No effort was spared by Attwood, who presented the petition of the Chartists to the House, and Feargus O'Connor, editor of the *Northern Star* and the most eloquent and hot-headed of the leaders, to secure his presence at some of their meetings, but he was resolute in keeping aloof. He was certain that the Chartists, by asking too much and in an unwisely dictatorial manner, would prevent the true sufferers from obtaining their just demands while effecting nothing themselves. At the same time his sympathies were in favour of a constitutional agitation for several of the demands of the Chartists.

When Mr. Attwood presented to the House the great petition of the Chartists begging for the appointment of a commission to inquire into the Charter Wakley spoke eloquently in its favour. This petition bore more than a million and a quarter signatures, and although drawn up on narrow strips of parchment and tightly rolled is described as having been as big as a large coach wheel. The ponderous document was rolled up the floor of the House by two officials and lay between the benches while Mr. Attwood explained its tenour in politic phrases. He toned down the vehement pleadings and party cries, deprecated the use of force among his followers, and disclaimed all illicit armament, incendiarism, and violence. Lord John Russell, representing the Government, moved the rejection of Mr. Attwood's motion and attempted with more or less success to show that the grievances of the masses were overstated. In so doing he referred to the condition of the agricultural labourers of Devonshire, and declared his disbelief in the pictures that had been drawn of their plight, "for he himself was concerned in the affairs of that county." Wakley at once gave some terrible details of privation and suffering drawn from his personal knowledge as the son of a Devonshire farmer. His picture of the lives of some of these field-slaves, who toiled from sunrise to sunset in all weathers for a paltry wage of seven shillings a week, and after long hours of effort under a scorching sun or in a bleak easterly drizzle slept in sheds, barns, and outhouses in the garments they had worn throughout the day, bore the stamp upon it of terrible truth. Disraeli, then sitting in his first Parliament as Member for Maidstone, and Daniel O'Connell both voted in support of some parts of the petition, but the motion was defeated by a crushing majority.

For those leaders among the Chartists whose irregular advocacy of what they believed to be the just cause of the people brought them within the grip of legal punishment Wakley had a very soft spot in his heart. Their fate was only what he had predicted for them, and their combination against the law had been broken down exactly as he had foreseen that it would be, but he never forgot that many of their tenets were his tenets. When Feargus O'Connor was incarcerated in York Castle on the charge of seditious libel he turned to Wakley for help in his trouble. He was from his own point of view treated with unnecessary severity—in fact, the conditions of his imprisonment seem to have been open to quite as much question as were the conditions of the

[2] A History of Our Own Times. By Justin McCarthy, M.P. Chapter v.

[3] See Chapter xxviii. of this Biography.

Kilmainham prisoners in more modern times. Wakley responded at once and proceeded to heckle the Government persistently on the subject, making Mr. Fox Maule (afterwards Earl of Dalhousie), the Under Secretary of State for the Home Department, and a personal as well as political friend of his own, his special victim. He displayed similar zeal in behalf of Henry Vincent, who was confined in Millbank, and Collins and Levett, who were imprisoned at Warwick. The severity meted out to the latter reformers caused the two Members for Finsbury to move and second a motion asking for a full and particular inquiry into their cases. Duncombe, who proposed the motion, made in his speech a masterly arraignment of the policy of coercion. Wakley's speech was rather fervid than argumentative, and Disraeli supported the motion, but the result of the division was that only 29 voted for the motion and 117 against it. So much for Wakley's connexion with the Chartists. He was sympathetic, and that was all. He considered their methods wrong and foolish, and refused to allow his judgment to be warped by his sympathy.

On Feb. 12th, 1838, Wakley spoke on a breach of privilege motion, because the daily papers, in reporting certain petitions before the House, omitted to mention the petition presented by him having reference to certain Glasgow cotton-spinners, a combination of whom having been found guilty of intent to murder in some trades' union disputes had been sentenced to seven years' penal servitude. On the following day Wakley made a vigorous speech in behalf of these men. From the character of the evidence brought forward against them he said that a full inquiry into the nature and doings of the Cotton-spinners' Association must be held. He had given notice of two resolutions which he desired to bring forward; he would, however, only ask the House to consider one of them—one pleading for delay. To this step he was prompted by mere prudence. He urged the Government not to transport these men until the whole affair had been thoroughly investigated. He expressed an opinion that any high-handedness or severity on the part of the authorities would be taken by the working classes at large as an evidence of hostility and would be fraught with the gravest danger to the institutions of the country. His intercession at the time led to nothing, but it made him for the next two years the channel for the transmission to the House of numerous petitions in favour of leniency towards the convicts, who were ultimately reprieved in July, 1840. The remission of their sentences was probably due to the uncertainty of the law in respect of trade combination, for however provoked these men may have been by the hard terms of their masters, however inflamed by incendiary speeches, and however innocent of wicked intent, the fact remains that they were found guilty of molesting certain fellow workmen who had accepted terms in opposition to the dictates of the union, one of whom died from his injuries. The crime was not a light one, and the House, well aware of the terrible catastrophes that had occurred in many manufacturing districts, in Birmingham notably, on account of collision between the workmen, the masters, and what are now termed the blacklegs, could hardly have been expected to release the convicts immediately. To many it will seem that the seven years' transportation originally allotted to them was not an excessive penalty, and no one will consider the two years that they actually experienced to have been other than their desert.

During the next three years until the beginning of 1841 purely medical matters were not much before the House, whose attention, it may be readily understood, was sufficiently engrossed by the reactionary wave following the Reform Bill, by the turbulence of the Chartists following that reactionary wave, by the evergreen troubles of Ireland, and by the anti-Corn Law agitation, now beginning to assume serious proportions. In June, 1840, Sir James Graham's Vaccination Bill came on for discussion. Speaking on this Bill, Wakley stated that in its existing form the poorer classes had a great objection to such a piece of legislation. They did not approve of the working of the Bill being put into the hands of the Poor-law Commissioners. As the Bill at that time ran, the persons appointed to vaccinate were the Poor-law medical officers and these only. Wakley argued that each person ought to be allowed to employ his own medical man if he so desired; otherwise this Bill gave too much power to the Poor-law officer. He moved an amendment to this effect, but the division did not altogether encourage him, 39 only voting for the amendment and 56 for the Bill as it stood. Undismayed, however, he maintained, when the next clause came up for discussion, that the Bill tended to pauperise the working classes, and this time he contrived to get the words "with medical officers appointed by the boards of guardians or with any other legally qualified medical practitioner or practitioners" inserted. He thus effectually vindicated the right of ordinary practitioners to become vaccinators under the Act. Wakley also secured the necessary support for an amendment to this Bill making it a penal offence to inoculate with small-pox, or to expose persons intentionally to infection. This amendment was accepted without opposition.

Early in 1841 several matters of medical interest were before the House, and in each debate Wakley took a prominent part, being by this time a person to whose views official position lent much weight. Earlier in his Parliamentary career, although his tact and unexpected moderation of language, as well as his obvious belief in the views to which he gave expression, had ensured for him respectful attention, he could only quote experience as the editor of a new and very revolutionary journal. He now spoke in the position of Coroner for Middlesex, to which post he had been elected in 1839, and of editor of a journal that was becoming accepted week by week with increasing uniformity as the organ of the profession at large. Consequently it was held that on measures concerning the relations of the medical profession to the public, whenever such relations were under discussion, he could talk with the double authority of a practical man and a man who was in a famous position for theorising.

A measure aimed against the burying of the dead in the overcrowded churchyards of the cities was brought forward at this time. In some of the most densely packed districts of London this was still the custom, while a strong prejudice existed against extra-mural graveyards and suburban cemeteries. The popular sentiment that a man should be buried where he had lived, worked, and died is a feeling that is not quite extinguished yet, and one against which the utilitarian will probably war for some time in vain, but Wakley spoke relentlessly against it. His medical knowledge and special information as coroner gave a point to his speeches. He was also a metropolitan churchwarden and able in some measure to practically enforce his views, and in this measure he gave the House some plain speaking against a sentimental prolongation of a system by which the dead poisoned the living.

Another subject with which his position as coroner gave him a special right to deal in the House was infanticide in its relation to illegitimacy. Illegitimacy was on the increase in the early forties to an alarming extent. This, he said, was the direct consequence of the misery and distress prevalent among the labouring classes. The peasant or artisan who could look forward with any certainty to secure wages, and wages high enough to enable him to support a wife and family, was, he contended, an unknown person in Great Britain. The consequence of this inability to contract regular unions with any ordinary prudence was necessarily an increase of illegitimacy,

and this increase of illegitimacy coincided, as it always must, with an increase of infanticide. This sequence brought Wakley round to his favourite standpoint—that laws against consequences must be useless, and must serve only as an irritant of the conditions they would remove. Causes, primal causes, must always be attacked by the thorough-going legislator. General legislation for the working-classes, improvement in their wages, the cheapening of their food, and the provision of a sanitary environment in their homes, were the only possible means that any rational man would attempt to provide for the prevention of the increase of such a crime as infanticide and such moral delinquency as the illicit propagation of the species.

Of the numerous topics during these three years on which Wakley spoke as a consistent supporter of a general progressive programme only the briefest mention need be made. He was a reformer as he understood the word, and when the topics are mentioned the direction of his votes and the tenour of his speeches may be at once guessed. It is needless to say that he spoke in favour of the equalisation of taxation of property of all kinds and against all sinecures and hereditary pensions. Where such opinions brought the position of the House of Lords or certain members of that House into discussion his remarks on that institution were not laudatory. He does not appear to have held definite views with regard to any reform that he desired to see in the Upper House, but he did not desire its abolition. Indeed, he spoke on one occasion against this radical suggestion, evidently believing that a revising chamber of some sort was necessary to the Constitution, although he did not approve of the one that was set over the deliberations in which he was taking part. He objected to the hasty adjournment of the House over long holidays at Easter and Whitsuntide when public business was in arrears. He inveighed against the way in which political prisoners were treated, considering as political offenders the leaders of the Chartists and Irish Repeal movements. He displayed great activity on Supply, examining and criticising the votes on Royal Palaces with a fervour learned from Hume, and with a detail which might even now be commended to the attention of the senior member for Northampton. He bitterly compared the reckless expenditure on plumbing at Buckingham Palace with the niggardly way in which the Government considered the widespread distress among the labouring poor.

Many of Wakley's speeches during this period present one curious feature which should be noticed. They abound with derogatory allusions to lawyers and the legal profession. On July 26th, 1839, shortly after he had been elected Coroner for Middlesex, a measure was before the House with regard to the appointment of Metropolitan Police Magistrates. A clause requiring these officials to be "barristers of seven years' high standing" attracted Wakley's attention. "Why," he asked, "should lawyers be of necessity the persons whose duty it should be to inquire into matters of common sense and justice? There are no men to be met with in society so utterly destitute of common sense as lawyers." A barrister took up the cudgels for his profession and accounted for Wakley's dislike of lawyers by the fact that he was a non-legal coroner and feared that he might be ousted to make room for a lawyer. He also criticised Wakley's attitude towards Lord Chief Justice Best after judgment had been given against him [4] as unbecoming. But this did not deter Wakley from continuing to allude to lawyers in a persistently uncomplimentary strain. In 1840, on the debate with regard to the salary of an Admiralty judge to be appointed to deal especially with Admiralty cases, the Bill (a Government one) fixed the salary for this official at £4000. Joseph Hume (then no longer member for Middlesex, but the representative of Kilkenny, to which seat he had been elected on the recommendation of Daniel O'Connell) moved that the sum be reduced by £1000. In this economical resolve he was supported by Wakley, whose arguments against the proposed salary were not economic, albeit he described the emolument as "disgracefully lavish," but were based on an assumption of the general incompetency of the legal profession. "Whatever the skill of the man may be," he said, "no lawyer is, or in my opinion ever will be, worth more than £3000 a year." On April 29th, 1840, we find him speaking in the same vein. He strongly objected to the Juvenile Offenders' Bill in the form that it was then offered for the consideration of the House. The Bill provided power of summary jurisdiction for three magistrates ostensibly to save the juvenile offender from the contamination of evil communications when awaiting trial. Wakley did not deem such summary jurisdiction necessary, for he held that a boy of fourteen was entitled to be tried by a jury, "who would be more likely to look upon his case from a humane view than a magistrate." In summing up the character of the country justices of the peace on this occasion Wakley employed terms as sweeping as unjust: "A more incompetent body of men can nowhere be found. ..... A body of men more characterised by ill-temper, faction, and the most besotted ignorance cannot be found than the magistrates of this country." In the same year he made an important speech in qualified support of the County Coroners Bill, now in charge of Mr. Pakington, when he protested against the power given to magistrates; and his numerous speeches during this and the following years with relation to the powers and doings of the Poor-law Commissioners had almost entirely the same bearing. His criticisms were directed against the giving of too much power to these Commissioners and to magistrates.

Wakley had been on the whole successful in his legal struggles, and was himself learned in the law, so that his dislike of a lawyer must be regarded as unreasonable though it was none the less strong and sincere.

(To be continued.)

[4] See Chapter xiii. of this Biography.

REPORT ON THE MORTALITY IN ENGLAND AND WALES DURING THE TEN YEARS 1881-90.[1]

III.[2]

IT is an unfortunate fact that a large proportion of the registered causes of death still continue to be so vaguely certified by medical attendants as to make it impossible for the Statistical Superintendent to decide under what headings in the National statistical records such deaths should be classfied. By way of remedy a system of confidential inquiry has for some years been in vogue between the General Register Office and the certifying medical practitioners of England and Wales. In the course of the decennium 1881-90 more than 22,000 letters of inquiry were addressed to local medical men, and with the help of replies to these inquiries it has been found practicable so far to improve the ambiguously worded certificates as to render them serviceable for the purposes of vital statistics. About 4000 of these inquiries related to deaths, of which the certified cause was "peritonitis" occurring in women of

[1] Supplement to the Fifty-fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. Part I., by John F. W. Tatham, M.A., M.D. Dub., Superintendent of Statistics, General Register Office. London: Eyre and Spottiswoode. Edinburgh and Glasgow: John Menzies and Co. Dublin: Hodges, Figgis, and Co. 1895. Price 3s. 6d.

[2] Nos. I. and II. were published in THE LANCET of Aug. 8th and 22nd, 1896, respectively.

child-bearing age. More than 1000 of these deaths were eventually transferred to the heading "puerperal fever." Again, of more than 3000 deaths returned as from "pyæmia," about 700 were ascertained to have been due to puerperal diseases. Of 272 deaths from "hæmorrhage," 69 were shown to have been similarly caused; and of 244 deaths ascribed in the certificates to "metritis," nearly half were found to be attributable to parturition. The important character of the work achieved by this system may be gathered from the fact that since the year 1885, not less than 1942 deaths have been rescued from ill-defined groups of ailments and added to "diseases of the heart and circulatory system," 1548 have been similarly added to "cancer," 1458 to "puerperal fever" and other disorders of parturition, 818 to "diseases of the urinary system," 458 to "tuberculous diseases," 248 to "venereal diseases," 271 to "uterine diseases," and 260 to "enteric fever." Altogether the results hitherto achieved by this arrangement have been so far satisfactory as to encourage the hope that in future it may be found practicable to deal similarly with a much larger proportion of these certificates, unless indeed the practice of special enquiry now in force tends to render such an expedient less necessary as time goes on.

Compared with the mortality in the preceding decennium, there was in the ten years 1881-90 an aggregate saving of life in England and Wales amounting to 2192 lives annually in each million of the population. A useful table is inserted at page 23 which indicates the headings under which this life-saving has been accomplished. The mortality from the important group known as "the common infectious diseases" for the most part fell considerably, but the rates from both measles and diphtheria showed, exceptionally, an excess. Inasmuch as most of the diseases of this group are especially fatal in early infancy Dr. Tatham has further extended the age-grouping adopted in previous reports, and has shown for each of the last three decennia the average annual death-rate from the several common infectious diseases per million children living at each year of age under five. In view of the increased interest attaching in recent years to the mortality of early childhood, because of the observed tendency of school attendance to increase the fatality, or at any rate the prevalence, of certain infectious disorders this useful extension of the tables will be welcomed both by our own profession and by the rapidly increasing section of the community who are interested in the subject of elementary education. Two diseases of the zymotic group—diphtheria and enteric fever—have received exceptional treatment in this report. The annual rate of mortality from diphtheria, which in the decennia ending with 1870 and 1880 had fallen from 185 per million to 121, again rose to 163 per million in the decennium last completed. In the periods of childhood and early youth this disease is especially fatal; it is relatively low at ages from fifteen to twenty years and tends to become still lower as life advances. It is interesting to note that at all ages up to forty-five years, and especially between five and fifteen years, diphtheria mortality is uniformly higher amongst females than amongst males and that the increase in recent years has occurred exclusively during the earlier ages of life. In the more decidedly urban portions of England diphtheria mortality in 1881-90 was equal to a rate of 168 per million, against 159 per million in the rural districts, the rate in the fifty smaller towns being only 100 per million, against 190 per million in the twenty-eight chief towns. Taking the mortality amongst children under five as a test, diphtheria appears to have been less fatal than the average in as many as thirty-two of the counties of England and Wales, the counties with rates *above* the average being chiefly those of Essex, Middlesex, Hertfordshire, London, and the five counties of the South-eastern Registration Division. Enteric fever appears to have shown a remarkably steady decline since 1875, the uncorrected rate having fallen from 374 per million in 1871-75 to 179 in the five years ending with 1890. At ages under twenty years females suffered more heavily than males in 1871-80, and also (though the excess was less marked) during 1881-90. At ages above twenty males suffered more severely than females during both decades. "In other words," Dr. Tatham observes, "the improvement in the male rates has not been commensurate with that in the female rates, and this is especially remarkable among adults"; and he suggests that this difference may probably be due to differences of occupation or of habit. Enteric fever mortality in 1881-90 showed a decrease on that of the previous ten years in every one of the English counties; in no case was the decrease less than 20 per cent. and in 15 cases it was 15 per cent. or more. It is worthy of notice that the whole of the counties containing the chief industrial centres have recently exhibited higher fever-rates among males than among females.

Perhaps the most encouraging fact revealed in the present report is the conspicuous and progressive reduction which has recently taken place in the death-toll levied by pulmonary phthisis. The life-saving represented by this reduction during 1881-90, as compared with the previous decennium, is equal to 392 lives in each million of the population, and the lives saved are mainly those of young adults, who are economically the most valuable to the State. In the course of the last twenty years the crude mortality from phthisis has decreased by 30 per cent. Among males the rate of decrease has been equal to 25 per cent. and among females to 35 per cent. A very remarkable change in the sex incidence of phthisis has been observed within the last forty years. From the year 1851 to 1865 the phthisis rate was greater amongst females than amongst males, although the difference gradually diminished as time went on. Since the year 1866, however, the mortality has been uniformly in excess, not amongst females, as formerly, but amongst males; and in the last two decennia (of the forty years) the excess of the male rate over the female rate was greater than had been the excess of the female over the male rate in the first decennium (1851-60). From information obtained since 1890 it appears that this remarkable change in the sex incidence of phthisis is still being continued. The mortality from this disease showed a decline during the recently ended decennium amongst males as well as females at all ages of life.

Throughout the entire period covered by the last three decennia the increase in the mortality from cancer has been steadily progressive, the deaths referred to this cause having been equal to a rate of 590 per million in the recent decennium, against rates of 384 and 468 respectively in the decennia ending with 1870 and 1880. If therefore, the correctness of the published figures be accepted without question there is no escape from the conclusion that in the course of the last twenty years the mortality from malignant disease has increased by 53 per cent. Dr. Tatham, however, points out that the case is not quite so bad as would appear at first sight from the tables, and he emphasises the fact that within the last six years alone the sum of deaths ultimately referred to cancer has been augmented by as many as 1548 in consequence of the system of inquiry already referred to. These deaths have increased the rate of cancer mortality by six per million. Apart from this, however, he thinks that the increase cannot be held to be wholly real, but that a considerable portion of it may be accounted for on the assumption that the true nature of obscure cases of malignant disease is now more frequently recognised than was formerly the case, and that consequently the statements of the causes of death by medical men have latterly been made with greater precision than was possible in earlier years. Cancer mortality is known to vary widely in different parts of the country, but Dr. Tatham, having taken pains to ascertain the actual amount of variation in its local incidence, has clearly shown that the differences in the rates of cancer mortality at all ages cannot be accepted as even an approximate measure of that incidence because of the enormous differences in the age distribution of the population in town and country. It is shown in the tables that cancer mortality is comparatively low amongst both males and females until after the thirty-fifth year of age; the mortality of a given place from cancer will, therefore, be largely dependent on the proportion of persons under and over middle age in the population. If, then, account be taken of the varying age and sex distribution of the local populations—in other words, if the cancer mortality among that part of a standard million of persons which is over thirty-five years of age be considered—it will be found that the differences in the cancer rates of the various counties will be considerably reduced. To take a typical instance of this reduction: according to the crude rates Huntingdonshire showed a cancer mortality of 208, as compared with that of Durham, taken as 100; after this correction, however, the mortality of the first-named county, as compared with the last, is only as 127 to 100. It is to be remembered, however, that whilst correction for age constitution reduces the difference between the cancer rates of the various counties it scarcely alters the relative position of those counties as areas with high, medium, or low rates of mortality from malignant disease.

THE PROTECTION OF WORKING WOMEN MOTHERS IN EUROPE.

FOR several months past the Society of Public Medicine and Professional Hygiene of France has debated the question of legislative interference so as to prevent women working in factories, &c., too soon after their confinement. The subject was introduced by Dr. Henri Napias, Government Inspector of Factories. The first French law on the subject of protecting workers from overwork dates from March 22nd, 1841. But the law only aimed at shielding children and this in a very ineffective manner. Yet it was not modified till 1874, when the age at which children were allowed to work was raised to twelve years, and protection was accorded to females up to the age of twenty-one. The law of Nov. 2nd, 1892, was a much more effective measure. By this enactment no child is allowed to work before he or she is thirteen years old. The day's work for women is limited to eleven hours, with one day's rest per week and restrictions upon night-work. This, however, is insufficient. Dr. Napias points out that, whereas the law went out of its way to stipulate that women should not be employed in the printing, folding, binding, or colouring of prints and pictures that might have an immoral or indecent tendency, yet the law does not protect the newborn child or its mother. As a contrast to this indifference he related that in Germany the law of June 1st, 1891, establishes that "as a rule women must not be employed for four weeks after childbirth, and they must not be employed during the fifth and sixth week unless a medical certificate is given by a fully qualified practitioner to the effect that such work can be allowed." Article 5 of the Belgian law of Dec. 13th, 1889, states: "Women must not be employed during the four weeks that follow their accouchement." The Dutch law of May 5th, 1889, contains a similar stipulation. Italy has no law affecting the work of women after the age of fifteen. In Spain even girls are not protected; the State of Luxembourg only forbids women working in mines. The Portuguese Decree Law of April 14th, 1891, forbids night-work and work in mines for women, but only till the age of twenty-one. Article 22, however, adds, that "no woman shall be admitted in an industrial establishment during the four weeks that follow her accouchement." Then Article 21 says:—"All factories or mills where more than fifty women are employed must possess a crèche installed under hygienic conditions, to be determined by special regulations. The crèche must not be farther than 300 metres from the factory. Several factories may unite to subvention one crèche between them, on condition that it shall be large enough and not more than 300 metres away from any one of the factories."

The Swiss Federal Law of March 23rd, 1877, goes farther than any one of these enactments, for it stipulates that all women shall be kept away from their work at the time of child-bearing, and this for a period of eight weeks. They cannot be admitted into a factory unless they give satisfactory proof that six weeks have elapsed since the birth of their child. The Federal Council is further to determine in which branches of industry women shall not be admitted at all during the period of gestation. The Russian industrial code is only optional and non-effective. It says that children under seventeen and women cannot be "forced" to do night-work. The Norwegian law (June 27th, 1892, Article 21) says that "women shall not be allowed to work before six weeks have elapsed since their accouchement. This period may, however, be reduced to four weeks when the woman produces a medical certificate that she can accomplish her work without injury to her health." Finally, according to Article 23 of the Royal Regulations or Decrees, the work of women may be forbidden in exhausting, dangerous, or insalubrious trades during the period of gestation. In Sweden there is no such law; the work of minors and of women in mines only is forbidden. In Hungary there is no protective law, but women who absent themselves from work during the four weeks that follow their confinement are not held to have committed a breach of contract. Denmark also has no law on this subject; and though in the United States of America there are numerous State laws dealing with the work of women, none impose restrictions at times of confinement. To sum up, nine European countries have laws affecting the work of mothers. Four weeks obligatory rest after confinement is provided for by the laws of Austria, Belgium, England, Hungary, Holland, and Portugal. In Germany and Norway this period is extended to six weeks. In Switzerland the total rest, part before and part after the confinement, must last for eight weeks. France stands out as a singular exception. This is all the more inexplicable as we are constantly hearing lamentations concerning the stationary condition of the French population. If the birth-rate cannot be raised it is very evident that much still remains to be done to reduce the death-rate. Yet great hesitation has been shown with regard to protecting women at the time of their confinement. The danger to both mother and child which results when work is resumed too soon is admitted on all sides, but ought the State to interfere? The most effective argument against such interference is the suggestion that if the law prevents women working then the law is bound to provide these women with the means of existence. Thereupon the cry is raised that the proposed reform implies a great increase of taxation and that the State already spends far too much money. Dr. Napias replies that it is a calumny on the great manufacturers of France to imagine that they are incapable of pecuniary sacrifices when the interests of their workpeople are concerned. Doubtless this good opinion entertained by Dr. Napias has been justified in a few notable instances, but there is reason to fear that these instances are the more notable as they are altogether exceptional. Dr. Napias states the case of Messrs. Schwob Brothers of Héricourt, in the department of Haute-Saône. In their mills is a notice to the effect that women who suckle their infants must remain at home for six weeks after their confinement and that they will receive from their employers an indemnity of 1*s.* 3*d.* per day during the whole period. After they return to work they are authorised to go home once every afternoon so as to suckle their infants. The mothers who produce a medical certificate attesting that they are unable to suckle their infants must remain at home for four weeks after their confinements and will receive the indemnity of 1*s.* 3*d.* per day. This, however, will only be paid to women who have been in the employ of the firm at least ten months before their confinement. Dr. Napias thought that this example might be widely followed and that manufacturers could well afford to pay an indemnity during three weeks to those women who became mothers. M. Mamy related that at St. Pol-sur-Mer, near Dunkirk, at the great flax and jute spinning works belonging to M. G. Vancauwenberghe an *Œuvre de Maternité* had been established. By subscriptions, lotteries, parties and balls money was raised. This society employed medical men to attend to the workwomen during their confinements and gave the women whatever material aid their medical advisers might deem necessary. This, however, is purely a work of charity which must tend to humiliate and pauperise the workpeople. Nor is there any proof forthcoming that in other manufacturing districts persons would be found equally able and willing to manage and find the funds for similar maternity institutions.

During the long discussion held by the French Society of Public Medicine and Professional Hygiene, Dr. Dion pointed out that the question was complicated by the fact that no account was taken of women who did not work in large factories or mills. For the latter it is comparatively easy to legislate, but were not the women who worked at home or in small workshops or the very large class of peasant women who worked in the fields equally deserving of public solicitude. Nor must the question of helping the poor be confounded with the question of preventing women working immediately after confinement. This latter measure might be carried out, at least among the great industries where it is possible to establish a system of inspectorship. Dr. Poitou-Duplessy made an eloquent speech against State interference. It would create a class of privileged women, for the women who worked in factories would be compelled to stop at home after confinement and would receive money help out of the public funds. Other working women and agricultural workers, who were equally deserving, but who could not be placed under the control of factory inspectors, would not be thus privileged and protected. It was every one's duty to see after the poor instead of trusting to the Providential action of the State. The freest country was that where the action of the Government was reduced to the minimum. Dr. Langlois argued that the opponents of State intervention ought also to advocate the suppression of sanitary laws, compulsory vaccination, disinfection, &c. If mothers are to be free to act as they please the State, in any

case, had the right to protect the infants and for the sake of the infants to see that the mothers did not work too soon after confinement. Dr. Moutier urged that the protection of mothers was also a question of national defence. France had to watch over the health of its future soldiers. The four weeks' delay should, under medical advice, be prolonged when necessary. Whether at the public cost or otherwise no means should be spared so as to assure the health of both mother and child. Many of his patients were mothers who had returned to work too soon. In reality mothers ought to rest before and after their confinements and should only be allowed to resume work when a medical examination had shown that there was no uterine lesion. It might not be possible to establish at present such ideal measures by law, particularly as factory inspectors are for the most part functionaries and not medical men. Nevertheless, the State should not hesitate to do what was practical in this direction.

Ultimately, and after a debate which lasted through several sittings, the Society of Public Medicine carried the following resolution by 25 against 14 votes:—

"That the public powers, following the example of other States and acting in the interest of the nation, as well as of humanity in general, should seek to protect women at the time of confinement, and forbid their undertaking industrial work during the four weeks following their accouchement."

A second resolution, worded as below, was carried unanimously:—

"Maternity funds, supported by employers or by private benefit societies and by subventions from the local authorities and from the State, should be created in all districts so as to aid women who are in a necessitous condition at the time of their confinements."

A project of law based on these principles has now been introduced in the French Parliament, so there is every reason to believe the above discussion will produce some practical results.

THE FOURTH INTERNATIONAL CONGRESS OF CRIMINAL ANTHROPOLOGY.

(FROM A SPECIAL CORRESPONDENT.)

ANTHROPOLOGY, long denied the rights of scientific citizenship, has at length vindicated its claims to that honour, and since its recognition some years ago by the British Association has come to be not the least attractive section of that "corps législatif" of science. In its application to practice, notably in its attempts to purge the social organism of abnormal developments, it has enlisted enthusiastic votaries from all professions—the medical particularly; while its claims to recast the education of the young and to intervene between the law courts and their jurisdiction have aroused jealousies and antagonisms which have rather stimulated than arrested its growth. One of the practical applications referred to is criminal anthropology, strictly so-called—a department of applied science which, year by year, is justifying its activity by ever-multiplying proofs of its value as an agent in healthy evolution, and which, as a glance at the official programme will testify, has on no previous occasion more peremptorily advanced its claims to speak and act with authority than on this its Fourth International Congress which will open to-morrow in Geneva.

The various Governments which will be officially represented at the sittings are those of Great Britain, Austria-Hungary, Italy, the Netherlands, Belgium, Denmark, Portugal, Roumania, the Argentine Republic, and Japan; while the delegates are very numerous from the chief cities, the universities, and the learned bodies, not only of Europe, but of nearly every civilised Power. The agenda paper now before me is rich beyond precedent, and though the sittings will not close till Saturday, the 29th inst., the communications already announced for discussion will have to undergo the "thinning process" if those of capital importance are to have their due share of attention. To glean from the crowded list of these I may call attention to the papers of Mr. Francis Galton, F.R.S., "On Digital Imprints"; of Professor Xavier Francotte of Liège, "On Alcoholic Somnambulism from the Medico-legal Point of View"; of M. F. Thiry, Professor of Criminal Law in the same seat of learning, "On the Applications, Administrative and Legal, of Criminal Anthropology"; of Dr. Malarewski, Director of the Medico-Pedagogic Institute of St. Petersburg, "On the Modes of Preventing the Evolution of Criminality"; of Dr. Näcke, physician to the lunatic asylum of Nubertusburg, Leipzig, "On Criminal Psychiatry"; of Dr. Paul Aubry of St. Brieuc, "On the Influence of the Press on Criminality"; of M. Ignace Zakrewsky, Senator at St. Petersburg, "On the Relations of Anthropology to Law"; of Professor B. Alimena, of the University of Naples, "On the Relation between Hereditary Disposition and the Domestic Circle for the Provocation of Tendencies to Crime"; of M. Dimitri Drill, of the St. Petersburg bar, "On the Foundations and the Object of Penal Responsibility"; of M. Tarde, Statistician to the Ministry of Justice at Paris, "On Professional Criminality"; of Dr. J. Offner of Vienna, "On the Influence of Positive Right on Punishable Acts"; of M. Bertillon, Chef du Service de l'Identité Judiciaire at Paris, "On the Results obtained by Anthropometry as regards Crime, and What are the Lacunes to be filled up?"; of the Abbé M. de Baets and Dr. G. de Baets of Ghent, "On the Education of the Children of Criminals"; and of Dr. Gilbert Ballet, physician to the St. Antoine Hospital at Paris, and Dr. J. Roubinovitch, head of the Clinique of Mental Maladies in the Faculty of Medicine at Paris, "Sur les Persécutés Processifs."

The opening address will be delivered by M. Lachenal, President of the Swiss Confederation, followed by M. Richard, Counsellor of State, and M. Turrettini, President of the Administrative Council, on Monday morning, the 24th inst., at 10 in the Aula Magna of the University, where for the remainder of the week the sittings will be held, beginning at 9 A.M. and resuming at 2 P.M., with the exception of Thursday, when the Council of State and the Administrative Council will hold at 3 P.M. an afternoon reception at the Ariana.

Geneva, Aug. 23rd.

THE SOUDAN CAMPAIGN.

ALTHOUGH the news from the Nile expeditionary force has of late had several points of military interest there is but little of a medical nature to be chronicled. The state of the River Nile is now satisfactory for transport purposes, and all arrangements for an advance on Dongola have by this time been completed, so that we shall probably soon hear of its having taken place. The cholera outbreak in the Nile portion of the expedition seems to have altogether ceased and the health of the troops, considering the great heat to which they are exposed, is very satisfactory. From Suakin we learn, however, that a fatal case of cholera had occurred amongst the Indian camp followers. The temperature is described as extremely hot at this station, and notwithstanding that it is garrisoned by Indian troops it is much felt by them. Contracts have been made for the supply of stores to these troops until the end of December, which looks as if it were expected they would return to India during the winter. Telegraphic communication between Assouan and the frontier has been interrupted since Sunday last, and there is, therefore, a comparative absence of news from the front.

While the reports are quite satisfactory as regards an absence of cholera in the Nile expeditionary force the epidemic still continues elsewhere in Egypt. According to the cholera returns issued at Cairo on the 25th inst. there were throughout Egypt 539 fresh cases and 494 deaths on Friday, Saturday, Sunday, and Monday last. At Girgeh, Kench, and in the provinces there were 213 deaths, in Cairo 3, in Alexandria 15, in Port Said 4, in Ismailia 3, in Suez 1, and in Suakin 1.

THE ROYAL HALIFAX INFIRMARY.

THE new Royal Halifax Infirmary, which was opened on July 25th by the Duke and Duchess of York, has replaced the old building, which came into use in 1838 and for a number of years has been quite inadequate for the accommodation of the patients and nursing staff. In 1889 it was determined not to rebuild on the old site but to erect single-storey pavilions on a large area of ground (over thirteen acres) on the outskirts of the town, and in June, 1893, the foundation-stone was laid. The outer walls are "cavity" walls and have damp courses throughout, and the whole of the buildings, except two floors

of the front block, are fireproof. The chief feature in the general arrangement of the various buildings is that the wards are only one storey high, and that they are, together with all administrative offices, dining-rooms, kitchens, &c., upon one floor. The ward floors do not rest on an enclosed basement, but are well raised from the ground, by means of arches, so as to give an air space between the floors and the ground. The various departments though connected with each other by corridors are otherwise distinct and have circulation of air all round them. In the front block the ground floor contains waiting-rooms, secretary's rooms, matron's office and sitting-room, house surgeons' rooms, and board-room, with separate lavatories, &c., in the wings; the nurses are for the present accommodated in the upper floors. The surgical block is a one-storey building, at the entrance to which is a large glass-covered area to shelter carriages, ambulances, &c. This block contains porters' rooms, accident receiving-room, examination-rooms, microscope-room, dispensary, &c., and a large hall, which for the present will be used for out-patients. The central hall, at the junction of the two main corridors, is two storeys in height, with a gallery on the first floor. Round it are grouped a number of rooms for the general service of the hospital, comprising assistant-matron's office, linen store, sewing-room, and library; also the dining-room for the house surgeons and matrons and spacious dining-halls for the nurses and servants respectively. The wash-house and laundry are situated at the rear of the site, and are separated from the kitchen block by a large grass-covered drying ground. The present ward pavilions are six in number—viz., three for men, two for women, and one for children—and will contain 150 beds. Each pavilion is detached and raised from the surface of the ground so that it has a clear air space all round, and has a cross ventilating passage from side to side at each end of the ward. On one side of the entrance passage connecting each of the ward pavilions with the main corridor is a small ward for special cases, a patients' clothes room, and housemaids' closets. On the other side is a nurses' duty room, with pantry and store-room for ward-linen, splints, &c. The large wards are all alike and (except the children's ward), contain twenty beds each. They are 33 ft. long, 23 ft. wide and 17 ft. high to the centre of the coved ceiling. Four of them have oak floors, the floors of the other two being laid with "terrazzo" mosaic. All these floors are based on concrete, carried by iron girders. The walls are of Keen's cement, painted with four coats of Gay's enamel paint. All recesses are avoided, and all angles rounded, so as to prevent lodgement of dust and impurities of any kind. Each of the large wards is heated by two double fire-places, and when needed, by steam heaters, which likewise serve as inlets for fresh air. At the further end of each ward are lavatories, bath-room, nurses' scullery, &c., and in each of the four wards which face south there is a cheerful day-room. The operating-theatre, as well as the adjoining anæsthetic-room and instrument-room, have floors of white "terrazzo" and walls of Keen's cement painted with Gay's enamel paint, so that the whole theatre can be washed down. The theatre has no roof-light; it is lighted by a large north window. The instrument cabinet, operation table, and other fittings are the generous gift of Mr. J. Hodgson Wright, the senior member of the honorary medical staff. The instrument cabinet is of polished mahogany, with glass shelves and glass doors. The operation table and other fittings are of enamelled iron with glass top. When necessary the operation table can be heated specially by a current of steam passing through a series of pipes lying below the glass top, the arrangement being devised by Mr. J. Whitely Ward, an ex-president of the infirmary, who has devoted a great amount of time to details of hospital construction. The theatre is heated by steam pipes. There are no trapped drains, all waste water passing directly outside. Attached to the operating-theatre are two small side-rooms, used for sterilising instruments and storing dressings. The whole of the buildings and grounds are lighted by electricity, there being an installation on the premises consisting of a 52-horse-power combined Chandler steam engine and dynamo and sixty Epstein storage cells. The buildings have been erected according to the designs of Messrs. Worthington and Elwood and their successors, Messrs. Thomas Worthington and Son, architects, of Manchester, and under their superintendence. The total cost of the contracts executed and of the work yet to be done (exclusive of the site and of the boundary wall and Lodge, which are to be left over for the present) is estimated at £72,625, leaving a deficiency of about £20,000 to be provided for.

The Duke of York announced that by the Queen's commands, he had to declare that the infirmary would be known in the future as "The Royal Halifax Infirmary."

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Guildford Rural Sanitary District.—Mr. Wellington Lake continued during 1895 to exercise a somewhat detailed control over the throats of school children in this district. After the re-assembling of the schools and at intervals afterwards he personally examined the throats of all the children attending, and rigidly excluded children manifesting the least sore-throat. By this means, Mr. Lake, although as he terms it "playing havoc" with the school attendance, diminished the occasions on which school closure was necessary. He thinks that the Education Act should be so amended as to preclude the loss of grant due to the exclusion of children from school for the purpose of public benefit. It is to be hoped that Mr. Lake will continue his routine practice over a sufficiently long period and over a sufficient number of schools to enable a systematic report to be made of the results, as far as conclusions are possible with such varying manifestations of infectious disease.

Southport Urban Sanitary District.—Dr. Henry Vernon has devoted a considerable portion of his report to a statistical analysis of the Southport death and birth rates as looked at from the standpoint of peculiar age and sex distribution in this district in comparison with those of England and Wales. He also compares the average death-rate from each of the principal infectious diseases during the last ten years with the same rates through England and Wales. As a rule the Southport figures come well out of the scrutiny, but in the matter of diphtheria this district shows an excess. Dr. Vernon is of opinion that the epidemics of diphtheria which have occurred in Southport have coincided with a rapid rise in level of the subsoil water caused by the succession of wet upon dry seasons. Southport is situated upon a porous sandy soil, which affords facilities for the rapid soakage of rain and the consequent displacement of ground air. It is interesting to note that the diarrhœa rate is usually small in Southport.

Northampton Urban District.—Mr. Lee Cogan reports that during the year 1895 three nurses engaged in nursing cases of enteric fever contracted the disease while discharging their duties; all, however, we are glad to see, recovered. Mr. Cogan thinks that with the improved advantages afforded by the new wards for typhoid fever such unfortunate occurrences will cease. We note that there were but eleven cases of enteric fever treated in Northampton during the year.

Stoke Newington Sanitary District.—Dr. H. R. Kenwood, in commenting upon the question of infantile mortality, condemns strongly a social system which renders indirect child murder through the agency of baby farming a matter of little difficulty and he advocates reform in the direction of registration, frequent inspection, and the holding of inquests in cases where death may have resulted under conditions possibly due to neglect. Dr. Kenwood also advocates that with a view to the prevention of overlying, the child should be wrapped up in a blanket and placed on a pillow between the two pillows of the parents. The efficiency of the disinfection of rooms by means of sulphurous acid fumigation has recently engaged Dr. Kenwood's attention, and he reports that during the last two years there have been 332 cases of scarlet-fever and diphtheria notified, and that out of this number there were twenty-four instances (twenty-two of scarlet fever and two of diphtheria) in which a fresh case occurred in premises previously disinfected by the sanitary authority. It seems, however, that in only two instances did the symptoms manifest themselves within eight days of disinfection, and Dr. Kenwood does not consider that this evidence is sufficient to condemn the method of disinfection adopted. There are,

however, many complicated factors involved in a calculation of this kind, such, for instance, as the number of persons of susceptible ages present in the house after disinfection, and as to how many were exposed with impunity before disinfection took place. Certainly only a small proportion of persons—presumably susceptible—do in actual practice become attacked when exposed to infection, and perhaps we should not be far wrong in assuming that many persons present in a house after disinfection had already had opportunities of becoming infected before that process took place. Dr. Kenwood very properly advises the public not to purchase cheap and unknown disinfectants.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6378 births and 3743 deaths were registered during the week ending Saturday, Aug. 22nd. The annual rate of mortality in these towns, which had declined from 24·8 to 19·9 per 1000 in the four preceding weeks, further fell to 18·0 last week. The rates in the several towns ranged from 11·5 in Norwich, 12·4 in Croydon, and 13·2 in Halifax, to 22·4 in Manchester and in Preston, 24·1 in Sunderland, and 25·5 in Salford. In the thirty-two provincial towns the mean death-rate was 18·8 per 1000, and exceeded by 2·0 the rate recorded in London, which was 16·8 per 1000 The zymotic death-rate in the thirty-three towns averaged 3·8 per 1000; in London the rate was equal to 3·3 per 1000, while it averaged 4·1 in the thirty-two provincial towns, and was highest in Portsmouth, Salford, Brighton, and Wolverhampton. Measles caused a death-rate of 1·1 in Sheffield and in Gateshead, and 2·6 in Brighton; scarlet fever of 1·3 in Salford and 1·5 in Oldham; whooping-cough of 1·2 in Salford and 1·4 in Preston; "fever" of 1·3 in Bolton and 1·4 in Hull; and diarrhœa of 4·1 in Sunderland, 4·2 in Leicester, 5·3 in Portsmouth, and 7·2 in Wolverhampton. The 84 deaths from diphtheria in the thirty-three towns included 59 in London, 5 in West Ham, and 4 in Birmingham. No fatal case of small-pox was registered either in London or in any of the thirty-two large provincial towns. There were 18 small-pox patients under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, Aug. 22nd, against 22 in each of the two preceding weeks; 4 new cases were admitted during the week, against 5 and 2 in the two preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3437, against 3369 and 3368 at the end of the two preceding weeks; 416 new cases were admitted during the week, against 360, 366, and 378 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 142 and 135 in the two preceding weeks, rose again last week to 145, but were 23 below the corrected average number. The causes of 49, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Bradford, Leeds, Newcastle-upon-Tyne, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Wolverhampton, Birmingham, Leicester, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 15·4 and 16·1 per 1000 in the two preceding weeks, rose again to 16·5 during the week ending Aug. 22nd, but was 1·5 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·5 in Greenock and 13·8 in Dundee to 20·5 in Perth and 22·8 in Paisley. The 482 deaths in these towns included 41 which were referred to diarrhœa, 18 to whooping-cough, 15 to measles, 7 to scarlet fever, 4 to "fever," and 2 to diphtheria, In all, 87 deaths resulted from these principal zymotic diseases, against 80 and 73 in the two preceding weeks. These 87 deaths were equal to an annual rate of 3·0 per 1000, which was 0·8 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had declined from 57 to 28 in the four preceding weeks, rose again to 41 last week, of which 21 occurred in Glasgow, 9 in Edinburgh, and 5 in Dundee. The 18 deaths referred to whooping-cough exceeded by 7 the number recorded in the preceding week, and included 11 in Glasgow and 5 in Edinburgh. The fatal cases of measles, which had been 16 and 20 in the two preceding weeks, declined again to 15 last week, of which 13 occurred in Glasgow and 2 in Edinburgh. The deaths from scarlet fever, which had been 5 and 3 in the two preceding weeks, rose to 7 last week, of which 2 were recorded in Glasgow and 2 in Edinburgh. The 4 fatal cases of "fever" exceeded by 2 the number in the preceding week, and included 2 in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 70 and 59 in the two preceding weeks, rose again to 67 last week, and were 11 above the number in the corresponding period of last year. The causes of 25, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the three preceding weeks from 27·4 to 21·6 per 1000, rose again to 24·9 during the week ending Aug. 22nd. During the past eight weeks of the current quarter the death-rate in the city has averaged 24·9 per 1000, the rate during the same period being 21·1 in London and 15·7 in Edinburgh. The 167 deaths registered in Dublin during the week under notice showed an increase of 22 upon the number in the preceding week, and included 28 which were referred to the principal zymotic diseases, against 38 and 25 in the two preceding weeks; of these 21 resulted from diarrhœa, 4 from "fever," 2 from whooping-cough, 1 from scarlet fever, and not one either from small-pox, measles, or diphtheria. These 28 deaths were equal to an annual rate of 4·2 per 1000, the zymotic death-rate during the same period being 3·3 in London and 3·9 in Edinburgh. The fatal cases of diarrhœa, which had been 29 and 16 in the two preceding weeks, rose again to 21 last week. The deaths referred to different forms of "fever," which had increased from 2 to 4 in the three preceding weeks, were again 4 last week. The mortality from scarlet fever showed a decline from that recorded in the preceeding week, while that from whooping-cough showed an increase. The 167 deaths in Dublin last week included 51 of infants under one year of age, and 35 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded those recorded in the preceeding week. Eight inquest cases and 5 deaths from violence were registered; and 52, or nearly a third, of the deaths occurred in public institutions. The causes of 18, or nearly 11 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT-COLONEL LLOYD BRERETON WARD retires on retired pay. The undermentioned Surgeon-Captains to be Surgeon-Majors:—John R. Barefoot, Robert H. Clement, George D. Hunter, Louis E. Anderson, George B. Russell, M.B., Arthur E. C. Spence, M.B., John R. Mallins, M.B., Robert J. McCormack, M.D., Henry N. Thompson, M.B., Joseph I. P. Doyle, Neville Manders, Lesley R. Colledge, F.R.C.S. Edin., Samuel Freyer, M.D., Cecil Birt, Robert S. F. Henderson, M.B., Samuel Butterworth, and Charles J. Holmes, M.D., F.R.C.S. Irel. The under-mentioned Surgeons on probation to be Surgeon-Lieutenants:—Edwin Thomas Fairweather Birrell, M.B., Edward Warren Webber Cochrane, M.B., Arthur Hugh Morris, George Bushman Riddick, Samuel Arthur Archer, Alexander James MacDougall, M.B., Robert William Clements, M.B., Maurice Swabey, and Henry Hewetson.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Captain J. G. Jordan, Officiating Civil Surgeon of Tippera, is appointed to be Civil Surgeon of Singhbhum, but will continue to act, until further orders, as Civil Surgeon of Tippera. Surgeon-Captain A. H. Nott, Officiating Civil Surgeon of Hazaribagh, is confirmed in that appointment. Surgeon-Major Dharmadas Basu, Civil Surgeon of Mymensingh, but at present Officiating as Civil Surgeon of Purnea,

is confirmed in the latter appointment. Surgeon-Captain J. T. Calvert, Officiating Civil Surgeon of Mymensingh, is confirmed in that appointment, vice Surgeon-Major Dharmadas Basu, transferred.

NAVAL MEDICAL SERVICE.

The undermentioned Surgeons have been promoted to the rank of Staff-Surgeons in Her Majesty's Fleet:—Edward Bridges Townsend, Alexander Gascoigne Wildey, Patrick Brodie Handyside, M.B., Harold Rochester Osborne, James Macdonald Rogers, Chaworth Louis Nolan, M.B., Harold Frederic Dale Stephens, M.B., Edward Copley Ward, M.D., William Robert Minching Young, Herbert William Gibbs Doyne, Samuel Wellesley Johnson, M.B., George Albert Dreaper, Alexander Fleming Harper, Hubert William Austin Burke, Edward Robert Drummond Fasken, James Charles Francis Whicher, Alexander Gordon Andrews, Arthur Stanley Nance, and Evan St. Maur Nepean.

VOLUNTEER CORPS.

Artillery: 2nd Middlesex: Surgeon-Lieutenant A. Thorne to be Surgeon-Captain. 2nd Glamorganshire: Surgeon-Captain J. H. Rees, M.D., resigns his commission. *Rifle:* 1st Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment): Ernest Victor Eames, gent., to be Surgeon-Lieutenant. 2nd London: Surgeon-Lieutenant S. M. Copeman, M.D., to be Surgeon-Captain. 5th Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant A. J. Meikle, M.B., resigns his commission.

CHOLERA INOCULATION.

The *Standard* of the 25th inst., *apropos* of the late report by Dr. Simpson, the health officer of Calcutta, had a long article on this subject setting forth the results of Professor Haffkine's work in India in this respect. As we have so recently referred to Dr. Simpson's report in THE LANCET there is no need to discuss it further now. Dr. Simpson has, in our opinion, made out a good case for continuing the prosecution of the experimental investigations undertaken with so much zeal by M. Haffkine. Some influential members of the medical profession in India do not at all accept, however, that Koch has yet thoroughly established his doctrine, and as cholera inoculations are based upon the assumption that the comma bacillus is the proved cause of cholera they naturally dispute the correctness of the inferences and conclusions derived from the inoculation method of treatment. The *Times of India* of the 7th inst. contains a communication from its correspondent in which reference is made to a recent visit of M. Haffkine to Poona in connexion with an outbreak of cholera at that station. Although a number of soldiers belonging to the regiments quartered there underwent the inoculation process we gather that a still larger number refrained from doing so. The operation, if quite free from danger to life, seems to be occasionally attended with painful results, and it is doubtful how long the immunity alleged to be conferred by it lasts while, it is urged, only a certain proportion of people take cholera at any time. It is quite probable, therefore, that these considerations had the effect of preventing a larger number of men from offering themselves for inoculation.

THE PASTEUR INSTITUTE FOR INDIA.

About Rs.70,000 have been subscribed in India for the purpose of the establishment of a Pasteur Institute, and a meeting of the central committee was to have taken place at Simla this month to discuss and settle several practical questions connected with the subject. The movement is a public one and the subscriptions have been quite spontaneous. The hill station, Kasauli, has been chosen as the site for the erection of a hospital and laboratory, and it is hoped that the Imperial and local Governments will aid, financially and otherwise, in promoting the work and in supplying the institute with skilled bacteriological and medical aid for the purpose. We may add that the *Pioneer Mail* of the 5th inst. reports the occurrence of a fatal case of hydrophobia at Meerut. It appears that there was an outbreak of rabies among several dogs at the station. A soldier of the 5th Dragoon Guards, who had been bitten, was on his way to the Paris Pasteur Institute. Surgeon-Lieutenant-Colonel Swayne, A.M.S., at Meerut, has made an application for a supply of the anti-rabic serum which the Italian experts Tizzoni and Centanni consider, as the result of their experimental investigations, to possess protective properties. As the serum can be dried into thin flakes and retains its protective properties, according to these authorities, unimpaired for a long time, it is in this respect well adapted for use in India.

CHOLERA IN INDIA.

Cholera is still very prevalent in Bangalore, where the Dorset regiment recently lost three men from the disease. The outbreak in the Kolar Gold Fields has given rise altogether up to the latest reports to 600 cases and 400 deaths, and the disease still continues very prevalent. The natives are deserting the place and there is difficulty in obtaining the necessary labour to work the mines. There has been a severe outbreak at Manipur among the natives and many deaths have also occurred among the Ghoorka troops stationed there.

DEATHS IN THE SERVICES.

Surgeon-Major Herbert Saunders, Army Medical Staff, at Murree, on the 18th instant, aged forty-seven years. The late officer had seen much service in Africa, and had also taken part in the late Chitral campaign. He was appointed Surgeon in 1880 and promoted to the rank of Surgeon-Major in 1892.

MEDICAL STAFF CORPS FOR SOUTH AFRICA.

A detachment of the Medical Staff Corps from Aldershot embarked with the 9th Lancers on board the P. and O. steamers at the Albert Docks for service in Natal.

Correspondence.

"Audi alteram partem."

"THE GENERAL MEDICAL COUNCIL: CRITICS AND CANDIDATES."

To the Editors of THE LANCET.

SIRS,—I am very unwilling again to trespass upon your space, but still more unwilling that the letter of Dr. Welsford should be left without reply. Dr. Welsford asserted at Carlisle that "the history of the Council was one long record of wasted opportunities," and in answer to this assertion I asked him to point out specifically what opportunities the Council had wasted and when and how it wasted them. He rejoins that "it is notoriously difficult to prove a negative except by showing the absence of a positive." I admit the difficulty, which I think is understated, but I fail to see the relevancy of the remark. A "wasted opportunity" is not a negative. "To waste" is an active verb; an "opportunity" depends upon the presence of circumstances which are favourable to the end proposed. Will not Dr. Welsford oblige me with so much as one example, even though, like Professor Horsley's paper at Carlisle, it be but "a little one," so that we may consider it together? If he will I should prefer to be supplied out of his abundance with one which has occurred since I became a member of the Council, and I should like a reference to the minute of the Council's proceedings on the occasion. If he will not, surely I shall do him no injustice by assuming that he cannot; and that he has been betrayed by the tempting rotundity of a phrase into saying more than he is able to substantiate.

I do not think I made any reference to the work of the Council during the whole thirty-seven years of its existence, but that I limited myself, by the use of the word "we," to what had been done during my own period of office. Of this I gave certain examples, and supplemented them by the general statement that we had "done our duty," a statement which, as it seems to me, leaves very little ground uncovered. Will Dr. Welsford point out any omission in this respect, explaining, of course, in what way and by what authority the neglected duty was imposed upon us? With regard to the first twenty-seven years, I may say that the record of the Council shows it to have been composed of men eminent in medicine, in surgery, in science, in philosophy, in literature—men whose names future generations will not willingly let die. To mention only those taken away by death there was Sir Benjamin Brodie, who was also President of the Royal Society, Joseph Henry Green, Sir George Paget, Sir Thomas Watson, Sir George Burrows, Sir James Alderson, Sir J. Risdon Bennett, Moncrieff Arnott, Cæsar Hawkins, Professor Rolleston, Sir William Gull,

Dr. Andrew Wood, James Syme, Rawdon Macnamara, Sir Dominic Corrigan, Sir James Clark, Sir Charles Hastings (the founder of the British Medical Association), Sir William Lawrence, Professor Sharpey, Dr. Parkes, Dr. Matthews Duncan, Sir Robert Christison, and Dr. Stokes. Is it not within the limits of possibility that these men, and others their congeners, who were assisted in the administration of a new Act of Parliament by eminent members of the legal profession, as well as by the results of appeals to the judicial bench, may have decided rightly and wisely as to the courses of action which it would be proper for them to adopt? We are none of us infallible, not even, as was said by a late Master of Trinity, the youngest of us; and I confess that the authority of Dr. Welsford does not seem to me to be sufficient to weigh down that of all the persons whom I have named above, and to convict all of them of the fatuity with which it is now thought proper and decorous that they should be charged.

Dr. Welsford advises us to read the Medical Acts, and he also tells us what are the powers which those Acts confer upon us. I think we have all read them (at least, I can speak for myself), but, unfortunately, our lawyers do not entirely agree with Dr. Welsford as an interpreter. I fear we should act unwisely either in neglecting their advice or in being guided by his; and it is certain that no vote of mine will be given in favour of such an experiment.

I am, Sirs, your obedient servant,

Harley-street, Aug. 24th, 1896. R. BRUDENELL CARTER.

To the Editors of THE LANCET.

SIRS,—A portion of Mr. Carter's letter in THE LANCET of Aug. 22nd deals with my reply to his first communication and is intended as an answer to certain facts and statements which I brought forward on the 15th. In this respect it is, to my mind, singularly inadequate, and perhaps you will allow me to show why. Mr. Carter declares that my charge against him of having insulted the general body of medical practitioners (or, indeed, anyone else) is unjust, and he defies me to prove it. Now although Mr. Carter is evidently unable to see it, a registered medical practitioner in the United Kingdom is a person who has, on the faith of the contingent protection promised by the Legislature, worked hard for four or five years and spent much money in order to educate himself or herself, and who finally pays £5 to the General Medical Council in order to obtain the rights and privileges of being registered under the Medical Acts of 1858 and 1886. To the General Medical Council the Legislature by these Acts entrusted the extremely honourable duty of executing the provisions contained in them, including the regulation of qualified practice, the suppression of quackery, and the responsible care of the Register, and as such regulations are necessarily of vital importance to the whole body of practitioners in gaining their livelihood it is obvious how intimately the work of the Council concerns them, how numerous are its duties in regard to them, and how urgent the need that their views should find adequate representation in its deliberations. Mr. Carter, however, ignores these responsible relations of the Council to the practitioners and declares in the second paragraph of his first letter that the grant of direct representation he has always looked upon as "a foolish concession to agitators by ignorant politicians," and he gives us to understand that his colleagues in general practice whose work is regulated by the Council are far beneath students and the parents of students in their right to be heard. Indeed, he thinks it becoming to insinuate that the only material point of contact between the Council and the practitioners is the rare occasion when one of the latter comes under the jurisdiction of the former in "the character of an accused or convicted person," and in the enforcement of his argument against direct representation he tries to accentuate the injury by asking whether "suspected criminals" ought to have direct representation on juries or on the bench. I repeat that this whole paragraph, which is in reality founded on the long-established neglect by the Council of its duty towards the practitioner, does appear to me to be, both in its wording and its meaning, insulting, and I fail to see how it can be shown to be other than discourteous to the body of men to whom it refers.

It is now my duty to point out that Mr. Carter has in his second letter put into practice a very old artifice in dialectic—namely, that of slurring over without remark a matter in which the dialectician has been convicted of misrepresentation. It will be remembered that in his letter of Aug. 8th he not only in his summary of the Medical Acts omitted all mention of Section 40 and the other allied sections, but he declared with all the emphasis obtainable from italics that "the Medical Acts not only contain *no* powers for the suppression of unqualified practice, but they expressly recognise it"; and, further, that, as regards this and like matters, "the General Medical Council as a corporate body is unable to take a single step with regard to them." I proved in my letter of Aug. 15th that in these sentences Mr. Carter's statements were doubly incorrect, for the Medical Act, 1858, contains sections (40, &c.) which are wholly directed to the suppression of unqualified practice, and that as regards the action of the Council as a corporate body I showed from the minutes of last year that Mr. Carter himself shared in the passing of a resolution empowering the Penal Committee of the Council to take the very step which he so forcibly declared to your readers (on Aug. 8th) the Council could not possibly take. But, Sirs, in writing to you again on Aug. 22nd he proceeds to discuss Section 40 and this action of the Council without the slightest reference to, or apology for, the fact of having told your readers but a fortnight before that neither the section nor the action existed or was possible of execution. If attempting to cover a serious error by ignoring its correction by an opponent be a mark of that "skill in dialectic" of which Mr. Carter says I have so little I cannot say I envy him his monopoly. From his reference to this part of the subject we now learn that "for many years and for valid reasons the Council declined to be a prosecuting body, but it has lately thought fit to take proceedings under Clause 40, &c." What does Mr. Carter mean by telling your readers without any explanation this week that the Council has lately decided to prosecute quacks when on Aug. 8th he said that the Council not only had no power to do so, as the Act gave none, but could not do such a thing because it was "a corporate body"? What, too, by the way, did he then mean by saying that because the Council was "a corporate body" it could not take "any step" toward furthering excellent objects of medical reform? Other "corporate bodies" we all know take very active steps to "influence public and parliamentary opinion," and if the members of the General Medical Council are to give good return to the profession which furnishes their honoraria they must realise the duties as well as the honours of their position and specially in this direction. Further, after Mr. Carter has explained how the Council can now do what, according to him, a fortnight ago it could not, he will, perhaps, reveal to us what "the reasons" were which caused the Council to abandon this part of its duty, and, at the same time, why after being "valid" for so many years the virtue of the "reasons" suddenly went out of them. Mr. Carter says that Section 40 "casts no duty of prosecuting upon the Council"; and he goes on to say: "The Council has no more power or duty in the matter than Professor Horsley himself or any other private citizen."

I fear it must by this time be apparent that Mr. Carter's knowledge and interpretation of the Medical Acts cannot be implicitly relied upon, and the specimens just quoted are not more correct than those already commented upon. In my first letter even I pointed out that "the Council (only) is endowed with the esteemed privilege of receiving the penalties obtained by such prosecutions." From this fact alone it is evident that Mr. Carter is wrong in saying that we outsiders are on equal terms with the Council in this matter. But, further, while of course Section 40 does not itself directly specify who is to prosecute, Mr. Carter omits to say that that section is not the proper place for such instructions, and that they are very clearly given in other sections of the Act, which provides that the Council is to do the work. As many (but without Mr. Carter's privileges and opportunities) probably share his want of familiarity with the provisions of the Act it may not be superfluous if I point out that inasmuch as (1) by Section 10 "the *Council*" is to "appoint so many clerks and servants as shall be necessary *for the purposes of this Act*"; (2) by Section 13 "all moneys" payable to the Council "shall be applied to defray the expenses of *carrying this Act into execution*"; (3) by Section 42 "any sum or sums of money arising from conviction and recovery of penalties as aforesaid shall be *paid to* the treasurer of the *General Medical Council*"; and (4) by Section 43 "all moneys received by any treasurer, &c., shall be applied for expenses of registration and of *the execution of this Act*"; it is perfectly clear that the Legislature entrusted the execution of the provisions of the Act (including the prosecution

of quacks under Section 40) to the Council primarily, and to this end gave the Council the penalties obtained thereby, and finally ordered the same to be applied by the Council to the purpose of execution of the provisions of the Act. Mr. Carter's misrepresentation of this very simple matter would have been almost incredible were we not in the Council of the Medical Defence Union made constantly aware of the very serious ignorance of the Medical Acts exhibited by the authorities of the General Medical Council.

As regards my refutation of Mr. Carter's assertion that the *Legislature* approved of quackery Mr. Carter now reaffirms his original most regrettable support of the quacks, and on two very remarkable grounds. First, it would appear, according to Mr. Carter, that if anyone wishes to fully understand any measure it is necessary that he should be born some time before the Act in question is passed. If this be so, then Mr. Carter's own particular electorate is in a very unfortunate case because their representative, having demonstrated in your columns that his knowledge of the Medical Acts is not what it might be, is also, by his own showing, precluded from ever understanding the Apothecaries Act (his own Act, we may say) because it was passed in 1815—that is, I believe, before Mr. Carter was of any "age" at all. His second method of confirming his assertion that the *Legislature* approves of quackery is to tell us that the "governing classes" have always encouraged it. But the "governing classes," who, by the way, are only evidenced in Mr. Carter's letter by a nameless Member of Parliament, and who are not different from other classes in the way of occasionally trying quackery, are not the *Legislature*, and no dialectical or other skill will ever prove them so to be. Indeed, Mr. Carter himself admits they are not, for he says "the opinion of the Legislature must be gathered from its enactments." Precisely so; but that was my contention, and not Mr. Carter's, and if we examine the enactments provided on this subject we find that he wholly misrepresented the position of the Legislature in his first letter, for the Apothecaries Act, the Medical Acts, the Dentists Act, the Veterinary Surgeons Act, and the Pharmacy Act have all been devised by the Legislature and passed for the express purpose of destroying unqualified practice, and there is not a single enactment approving of quackery. By his own standard, therefore, he is convicted of error, and since it is possible that some enterprising quack will quote Mr. Carter's unfortunate statement as being, in view of his position on the General Medical Council, one *ex cathedrâ*, I hope that the latter will, for the sake of his profession and of the truth about quackery, at once withdraw his mistaken conception of what the Legislature thinks or has done in this matter.

Now as to the word "balderdash." Mr. Carter is very proud of his use of what he calls a "good old English word," but the question is, How "old"? and unless his letter was really meant for our Norse ancestors it seems a little hard on us that Mr. Carter should address us in a nineteenth century journal in an archaic dialect. "Balderdash" in *early Scandinavian* undoubtedly meant "a confused noise," and so a "confused" or "mixed statement." But gradually it came to be applied to the sayings and arguments of persons who talked *nonsense*, and its present-day synonyms, according to the great authority of Roget are: "nonsense, jargon, gibberish, jabber, babble, hocus pocus, fustian, rant, bombast, rigmarole, twaddle, fudge, trash," and indeed it appears that "balderdash" also means a "tale told by an idiot, full of sound and fury signifying nothing." These are hard words, but after Mr. Carter's graceful explanation we rejoice to know that he did not really mean to speak so unkindly of Dr. Welsford, Dr. Drage, and myself, and above all that under no circumstances did he wish to convey to your readers that our criticisms of the General Medical Council merited the peculiarly disagreeable description contained in the last synonym I have quoted.

As regards the "throwing of mud and running away" of which I accused Mr. Carter I still think, with all deference to his greater literary experience, that since in his first letter he apparently told his opponents that their statements were all nonsense, but did not attempt to prove such an abusive verdict, his conduct could be only adequately described in the terms I used. But granting that Mr. Carter did not intend to be uncivil and that he only used the term "balderdash" *en pleine innocence* and to indicate "a confused statement" I regret to have to demonstrate that the very confusion of which he complains is solely of his own invention. He says: "I had before me an alleged wastefulness of opportunities the reality of which I did not admit but for which Dr. Welsford who believed in it offered one explanation, while Professor Horsley and Dr. Lovell Drage offered a different one. What was I to make of critics who were unable to agree among themselves?" As a comment on this I will ask what are we to make of a member of the General Medical Council who to gloss over his improper denomination of his opponents' ideas is obliged to invent an absolutely incorrect account of what they said and then to proceed to attribute to them a want of agreement which exists only in his (Mr. Carter's) imagination? To emphasise the injustice of his proceeding I must remind your readers that Mr. Carter in his first letter said he had read the candidates' addresses and documents generally. He must have known, therefore, that Dr. Drage and myself are in thorough accord with Dr. Welsford in thinking that the Council's wastefulness of opportunity is due in the main to the insufficiency of direct representation. From the report in the *Times*, which he professed to quote in his first letter, he knew that Dr. Drage and I simply supplemented Dr. Welsford's position by showing that the dangerous and improper powers accorded to the President by the Standing Orders were a further, and a prolific, source of failure on the part of the Council. Mr. Carter's statement that we "were unable to agree among ourselves" is, therefore, an unpardonable fiction originated by himself to cover his want of good taste in stigmatising without discussion our papers and observations as "balderdash." The said "balderdash" or "confusion of statement" (*à la* Mr. Carter) being therefore entirely a creature of his far too imaginative eloquence he will do well to at once put an end to its unfortunate existence.

In conclusion, Mr. Carter congratulates himself on being the "representative of the Society of Apothecaries." As a matter of fact he is not. Of the whole body of members and licentiates who compose the society he is elected by twenty-four individuals only—viz., the Court of Assistants, and therefore in truth he only represents those twenty-four persons, most of whom are on the Medical Register, but some of whom are not. Surely it is not fair that about twenty medical men out of the 20,000 in England should have the power of electing a representative to the Council, while the remaining 19,980 of their colleagues may only elect three representatives, and certainly it is not pleasant to read Mr. Carter's denunciation of direct representation when we know the real character of his own election.—I am, Sirs, yours faithfully,

Cavendish-square, Aug. 22nd, 1896. VICTOR HORSLEY.

To the Editors of THE LANCET.

SIRS,—For the information of Mr. Brudenell Carter, who states that the General Medical Council "has no more power or duty in the matter—i.e., of taking proceedings under Section 40 of the Medical Act, 1858—than any private citizen," the words of Section 43 may be quoted. This section states that all moneys received by any treasurer arising from fees to be paid on registration, from the sale of Registers, from penalties or otherwise, shall be applied for expenses of registration and *of the execution of this Act*. If a private citizen receives money for the performance of any work it is his duty to do it; equally it is the duty of the General Medical Council to do the work which it is paid to do, and this is stated in Section 43 to consist of the execution of the Medical Act of 1858, not omitting Sections 29 and 40.

It is true, as Mr. Carter says, that the Council has not for many years done its duty in this respect, but we should be glad to learn from him what are the "valid reasons" which account for this dereliction of duty on the part of the Council. Mr. Carter fears that the "real head and front of his offending is to be found in his use of the word 'balderdash.'" He is under a misconception. The use of words of this kind in controversial writing unaccompanied by any attempt to refute the arguments of his opponents is scarcely a dignified, or in fact rational, proceeding on the part of a member of the Council, but cannot surprise those who are accustomed to the peculiar style of members of the Council when engaged in defending their favourite institution. Mr. Carter's real offence is to be found in his denial that the Council has any duties to perform when the Medical Act of 1858 makes a contrary assertion. Had Mr. Carter waited until the papers on the General Medical Council read at Carlisle had been published, instead of criticising the views of the writers on the strength of a *Times* abstract, he would not have been led into the error of imagining that any difference of opinion

on this matter exists between us. The papers read at Carlisle were in sequence and showed conclusively the existence of the gravest abuses in the constitution and performance of the General Medical Council.—I am, Sirs, your faithfully,

A. G. WELSFORD.

Cambridge-terrace, Dover, Aug. 22nd, 1896.

"METACHROMATISM IN DIPHTHERIA BACILLI."

To the Editors of THE LANCET.

SIRS,—Dr. Kanthack in an article published in THE LANCET of Aug. 22nd criticises somewhat severely my paper on the Influence of Glycerine in Culture Media on the Diphtheria Bacillus. He concludes from my paper that I do not know that the diphtheria bacillus shows metachromatism when stained with methylene blue, after growth on media that do not contain glycerine as well as on those that do. Such a conclusion is not only not warranted by my paper, but is exactly contrary to what I state. All that was claimed for glycerine-containing media was that in twenty-one instances marked metachromatism was shown invariably by the bacilli. I have, of course, in several instances seen it quite as marked with bacilli from growths on media containing no glycerine, and I have generally, but by no means invariably, found that some of the diphtheria bacilli from growths on such media show metachromatism. A further conclusion is drawn from my paper by Dr. Kanthack that I consider the Klebs-Löffler bacillus the only one that shows metachromatism, and he draws this conclusion simply because I do not mention the metachromatism of other bacilli. That bacilli very like the diphtheria bacillus are found in the throat and elsewhere, and that these bacilli sometimes show metachromatism, is well known. Whether those occurring in the throat will show metachromatism more often or less often when grown on glycerine-containing media I have not yet had an opportunity of finding out. If the examination of swabs from the throats of cases of suspected diphtheria is to be of any clinical value the examination must be completed within a short time. Dr. Kanthack apparently considers the search for the diphtheria bacillus as ordinarily carried out to be valueless. While acknowledging that there are several sources of error, as Dr. Kanthack has very clearly shown in his paper, I yet think that the actual errors occur sufficiently rarely to enable us to obtain information of real clinical and scientific value from such rapid examinations. I believe, too, that most observers will agree with me. Now at present in making these rapid examinations we are dependent for the recognition of the Klebs-Löffler bacillus on the appearance of the growth on the culture medium, on the size and shape of the bacilli, and on the manner in which they take up stains. All these criteria are very variable, besides not being absolutely distinctive, and the making of one of them invariable will "render the recognition of the Klebs-Löffler bacillus more speedy and more certain." The staining reaction of the bacilli after growth on media containing sufficient glycerine (and possibly on media containing sugar or salt) seems to be invariable and will thus give assistance in recognising the bacillus.

Although Dr Kanthack's criticism on my paper is, as I think, unfair, his warning as to the imperfections of our present means of recognising the Klebs-Löffler bacillus may be necessary. When I wrote my paper I thought, no doubt wrongly, that these imperfections were so universally admitted that no warning from me was required.

I am, Sirs, yours faithfully,

Upper Berkeley-street, W. ALFRED M. GOSSAGE.

"ON THE DOSAGE OF SOME OF THE VASO-MOTOR DILATORS."

To the Editors of THE LANCET.

SIRS,—I am sorry that Dr. John Ogle should have experienced any difficulty with regard to the dose in which nitro-glycerine should be administered. Of course no one regards the British Pharmacopœia as an authority on such subjects, for we are told in the preface to that compilation that the doses indicated are not authoritatively enjoined, and that "the practitioner must rely on his own judgement and act on his own responsibility in graduating the doses of any therapeutic agents which he may wish to administer to his patients." In the case of nitro-glycerine and other vasomotor dilators we aim not so much at giving a certain dose as at producing a definite pharmacological action. There are two points to be taken into consideration: first, the idiosyncrasy or susceptibility of the patient, and, secondly, the rapidity with which tolerance can be established. Taking the two extremes, I have known the characteristic nitro-glycerine headache produced by $\frac{1}{60}$th of a grain of the drug, whilst, on the other hand, I have given 4·8 grains a day without inconvenience. A patient of mine took 1767 grains of the pure drug in 102 weeks, and another patient practically lived on it for three years. Women are as a rule more susceptible to the action of the drug than are men. I made some observations on women not suffering from angina pectoris with the view of determining their dose. I found that 10 per cent. complained of the medicine when minim doses of the 1 per cent. solution were given, that on increasing the dose to two minims 32 per cent. complained, and that more than half suffered from headache after taking three minims. My rule is to begin with $\frac{1}{60}$th of a grain in the case of women and $\frac{1}{60}$th of a grain in the case of men, and to run up the dose until the patient is taking a grain three or four times a day. In cases of angina pectoris I always give the 1 per cent. solution and order the dose to be made up to a drachm with tincture of capsicum, spirits of chloroform, and peppermint water. The patient, for emergency work, carries a small bottle of this in each waistcoat pocket, as it is found by experience that the drug is absorbed much more rapidly when it is kept warm. I do not believe in the lethal action of the members of this group. In the only fatal case on record of poisoning by nitro-glycerine the patient took an ounce of the pure drug and even then did not die for four hours. A short time since a patient of mine swallowed a mouthful of nitrite of amyl in mistake for a cough linctus and experienced no inconvenience. There seems to be no particular reason why children should not be given nitro-glycerine tabellæ supposing that the ordinary chocolate drops are not available. For some time past, acting on the suggestion of Dr. P. M. Mikhalkine of Nijni-Novgorod, I have used nitro-glycerine with success in the treatment of neuralgia, taking care, however, always to give big doses.

I am, Sirs, yours faithfully,

Welbeck-street, W., Aug. 25th, 1896. WILLIAM MURRELL.

To the Editors of THE LANCET.

SIRS,—In regard to Dr. Ogle's letter referring to the above subject in THE LANCET of Aug. 22nd, I am of opinion that the official maximum dose of both nitro-glycerine tablets and solution of nitro-glycerine is very much understated. I enclose you a copy of the letter from the medical practitioner to which Dr. Ogle refers. He states: "Enclosed is a box of five nitro-glycerine tablets of your making. ..... I had ordered the tablets for a child six years old, one thrice daily. She had taken two dozen with no apparent effect of any kind. It appears that the other day she and a younger child about three years of age contrived to obtain the box and straightway consumed between them two dozen at one time. Supposing they each had a dozen they would have nearly one-eighth of a grain of nitro-glycerine. On neither of the children was any effect produced." The official dose of solution of nitro-glycerine is stated to be from "half to two minims." In the Extra Pharmacopœia I say "Gradually increase to ten minims, if necessary, every three or four hours in any aqueous vehicle," as I have known these doses administered. But to return to the tablets. In Dr. Kruger's "Handbook of Therapeutics" it is stated "one of my patients took a hundred of these tablets ($\frac{1}{100}$th grain of nitro-glycerine in each) a day with great benefit." More recently a client of mine, a retired chemist, seventy years of age, writes that he had "used nitro-glycerine in various forms for the last twenty-five years," as he had been medically ordered to use it for pseudo-angina. He asked me to make him one pound of the tablets, containing a quarter of a grain of nitro-glycerine in each, as he said "I have to take so many before I can get relief. I am now taking tablets containing 10 per cent. ($\frac{1}{10}$th grain in each) in addition to a solution of the same strength dissolved in spirit to make it soluble (Morson's 10 per cent. solution). So you will see I should always be taking some unless they were made strong; as I

said before I shall be very careful not to take too much." It appears, therefore, that as a therapeutic dose $\frac{1}{100}$th grain of nitro-glycerine (or from $\frac{1}{2}$ to 1 milligramme) is sufficient to begin with, but it may be increased. The maximum dose is not known. The tablets have never been proved to be dangerous to life. There can be no question about their activity properly prepared. To any one unaccustomed to their use a tablet containing $\frac{1}{100}$th grain will cause throbbing in the temples in less than two minutes.

I am, Sirs, yours obediently,

Aug. 24th, 1896. WM. MARTINDALE.

"EDUCATION AND INFECTION."

To the Editors of THE LANCET.

SIRS,—I thank you for your courteous and valuable criticism in THE LANCET of Aug. 22nd, of what I certainly meant to be a leading idea in my articles on the "Prevention of Tuberculosis," published in recent numbers of the *Medical Magazine*. Having a strong belief in its truth I cannot but urge on those who will listen to me the view that very great good would come from making the older school children, all over the kingdom, familiar with the laws which we know control the spread of infective disease, so far as they could be taught in simple words. You ask: "But how are such right ideas to be imparted?" I venture to suggest, in outline, the following plan:—Many senior students of medicine could, and I think would willingly, give the necessary information to schoolmasters and to school children. Some of the younger and a few of the older medical men would, I feel sure, willingly give of their time to help on so good a work. All this could be done for a moderate amount of money. I am very far from suggesting that another public service should be added to the far too many already done for no pay by medical men. By-and-by the schoolmaster would, in this way, have learned enough to teach his pupils the rudiments of the laws which control the spread of infections; and when this could be done then would cease the extra expense incurred in the first instance to provide for the payment of the special medical teachers. One of the earliest outcomes of this special teaching would be the growth of a literature dealing with the subject of the communicability of diseases, and written in such language as would, in due time, bring home to average intellects a sound working knowledge of how the spread of disease can be prevented.

You say, Sirs, "it is safe to conclude that a large number instructed in the theory and facts of infection will receive very wrong ideas indeed." This is most true; but will you point out any new and important teaching, especially any new medical teaching, from which have not sprung heavy crops of wrong ideas? These wrong ideas I have long regarded as among the great helps to the gradual diffusion of right ideas. Sensible people learn much from their own errors, and from the errors of others. In the long run it is the views of the sensible people which, in matters like this, lead public opinion. There can be no doubt that without the support and active help of public opinion no teaching of the kind I ask for will ever be given in our schools. In no slight degree it is what is being taught to-day in our schools which will profoundly influence the opinions and, consequently, the actions of the next generation of our fellow countrymen. If this is true—and who doubts it?—surely it is plainly our duty to do our very best, in public as well as in private life, to see that the art of keeping infective diseases out of our homes is well taught to our children.

I am, Sirs, yours faithfully,

London, Aug. 22nd, 1896. G. A. HERON.

HIGH TEMPERATURE AFTER CHILDBIRTH.

To the Editors of THE LANCET.

SIRS,—In the very practical and valuable paper on Puerperal Fever by Dr. Byers, published in THE LANCET of Aug. 22nd, the writer, after enumerating certain complications of the puerperal state, doubts whether constipation is ever a cause of fever, and concludes that it is on the whole rare to have fever and quick pulse from any other cause than infection. My midwifery experience is small, but I have met with one case of fever from constipation and with more than one case of fever not due to either infection or obvious complication. When encamped in the desert on the borders of the Nile I had to attend an officer's wife in her first confinement. She was a healthy, vigorous woman and had an easy, normal labour; a small perineal tear was treated with one stitch. The temperature was 102° F. the evening of the day of delivery, 103° the second night, and 105° the third. The patient felt well all the time and had no other unfavourable symptoms. The bowels acted slightly on the third day after taking pills, but in the night following she passed a copious, foul-smelling motion, and next morning and evening the temperature was 102°, and then gradually returned to normal, and the patient had a speedy convalescence. Another case of non-septic high temperature was in a near relation. I was so much alarmed that I called in Dr. Matthews Duncan, who comforted me by making light of a rise of temperature when, as in this case, there were no other unfavourable symptoms. The rise on this occasion, I have no doubt, was simply due to nervous excitement; this patient was also a primipara. I believe that in many adults, as in children, the temperature is liable to rise from very slight causes. I am glad Dr. Byers points out the danger of antiseptic douches, and does not advise their routine employment in normal cases. Several of the cases of puerperal septicæmia I have had to do with (not in my own practice) have occurred in the course of very careful antiseptic treatment, including bichloride douches.

I am, Sirs, yours faithfully,

SIDNEY DAVIES, M.A., M.D. Oxon.

Plumstead, Aug. 24th, 1896.

"MOTOR CARS."

To the Editors of THE LANCET.

SIRS,—Now that the Motor Car Act has had the Royal assent and become law it would be a great boon to the medical profession generally if you would depute a representative to examine into and report upon the best form of cars for town and country. There is no doubt that they will be most extensively used, and especially by medical men, to whom travelling expenses are an important item. Having visited patients in pretty well every possible way, it occurs to me to make the suggestion that the smaller cars should be of the safety bicycle and country rotary tricycle types; the latter might have a detachable extra seat, arranged so that two can sit back to back; this latter form of tricycle I have always found so perfect and thoroughly safe in the steering and sufficiently narrow to go through any doorway for temporary housing in case one should be detained for some hours at a case.

I am, Sirs, yours faithfully,

Bournemouth East, Aug. 24th, 1896. F. W. COBY.

*** We may point out to our readers that we have already touched upon the subject in our columns. In THE LANCET of Jan. 4th, 1896, page 63, will be found an account of the Exposition Internationale de Vélocipédie et de Locomotion Auto-mobile held in Paris in December, 1895, and at page 647 of the same volume there is an article giving the essential features which should characterise auto-cars for medical men. Other references to this subject will be found at pages 881 and 1261 of the same volume.—ED. L.

"WHY IS THE LEFT HEART STRONGER THAN THE RIGHT?"

To the Editors of THE LANCET.

SIRS,—Unless I greatly misunderstand him Dr. H. Campbell in his recent article with the above title and in his reply to Dr. Morison [1] is leaving out of consideration one of the most important factors in the physics of the circulation—viz., gravity. Surely it is gravity that makes the great difference between the work required of the left heart and that of the right? The left heart has to drive blood to the top of the skull some thirteen to fourteen inches above the aortic valves, while the right heart has merely to drive it to the top of the lungs, some three to four inches above the pulmonary valves; and the engineer of any water company will tell you the difference in pressure and power required to deliver water on the fourth storey of a house as compared with ten feet above the pavement.

[1] THE LANCET, Aug. 15th, 1896, p. 493.

That gravity does greatly affect the circulation in the vessels of the human body can be demonstrated in a moment either with the sphygmograph or the arteriometer, as I have elsewhere pointed out. Thus with the arteriometer of Dr. Oliver the radial artery may measure 0·5 m. on a level with the mouth, 1·0 m. on a level with the heart, and 1·5 m. between the knees, and the size of the artery is practically a measure of the pressure within it.

Now it is evident from this that the force (gravity) which distends the artery in the last position acts against the heart in the first position, and as the heart does not completely counteract it the blood-pressure and the size of the artery fall. And it seems to me that Dr. H. Campbell here makes another omission, for in his reply to Dr. Morison he argues that length of circuit makes no difference to resistance, or, in other words, to heart work, because pressure in the carotid of the horse and sheep is about the same.

But obviously carotid pressure is the resultant of two factors—(1) the force of gravity, and (2) the resistance which the heart opposes to it—so that the fact that a horse with a carotid rising two feet above its heart has the same pressure as a sheep with a carotid rising only one foot does not show that the pressure produced by gravity is not greater in the horse than in the sheep, but merely that the resistance to it is relatively less in the former than in the latter. Thus if at any moment a heart ceases to beat the carotid pressure may fall to almost *nil*, and the resulting syncope shows that the force gravity, which remains as before, has now got completely the best of it, so that there is no longer a cerebral circulation; and when under these circumstances we force the head down below the level of the heart we do it to obtain the help of gravity in place of its opposition.

With regard to my above evidence from the arteriometer it is interesting to note that Marey says[2] that raising the arms impedes the circulation in them, raises the tension, and slows the heart; in other words, the force of gravity acting against the heart is increased, and this no doubt accounts for the frequency of syncope in church in those kneeling with the arms raised above the heart level.

I am, Sirs, yours faithfully,

Brook-street, W., Aug. 17th, 1896. ALEXANDER HAIG.

[2] Circulation du Sang, p. 141.

To the Editors of THE LANCET.

SIRS,—In his reply to the remarks which I ventured to make on his paper published in THE LANCET of July 4th Dr. Harry Campbell raises so many controvertible points that it would require much space to deal in detail with the position he has assumed. I trust I have so far made myself clear in stating that while the essential causes of the cardiac difference in question are, in my opinion, the weight of the blood to be moved, the distance which it has to travel, and the quality of the tubes it has to course along, a no doubt important and universally admitted cause of variations in pressure is the condition of that tubing induced by innervation. That, however, the last factor is, as Dr. Campbell contends, the chief cause of the left heart being stronger than the right is no more clear to me than it was before reading his reply. I shall endeavour with the utmost brevity possible to justify my obduracy.

Exactly forty years ago Dr. Sharpey found that to impress a certain velocity upon a current of fluid injected through the pulmonary vessels he required to use just half the force necessary to impart the same rate of flow to fluid injected into the systemic vessels. To this greater ease of flow Marey and other physiologists have attributed all the differences between the strength of the two sides of the heart and the pressures in the pulmonary artery and aorta respectively. Sharpey's experiment is, I think, worthy of Dr. Campbell's consideration, and if valid is, I also think, fatal to his contention.

In disputing the influence of length of circulation upon blood-pressure Dr. Campbell has touched upon a very interesting theme in instancing the giraffe and the whale—namely, the influence of gravitation upon the circulation. With reference to the giraffe I cannot at the moment speak positively, but believe that I am right in stating that an examination of the heart of that animal will show that it is relatively stronger than that of the horse. Certainly anyone who has inspected the left ventricle of the ostrich and the whole heart of the whale will gain a great respect for the influence (among other conditions) of length of circulation upon the heart-force necessary to drive it. The Hunterian Museum of the Royal College of Surgeons of England presents an unrivalled series of object lessons in this respect. When, however, I used the term "length" of tubing in my letter of Aug. 8th, I should perhaps have been more accurate had I dwelt, not only upon the length, but also upon the *amount* of tubing, for I cannot agree with Dr. Campbell that "the complexity of a system of tubes does not necessarily increase its resistance to fluid circulating in it." Surely it is one of the best-established principles of hydro-dynamics that what we understand by the friction of current fluid is in direct relation to its amount and subdivision. Nothing that Dr. Campbell has urged appears to me in the remotest degree to disprove the correctness of that belief. Further, his hypothetical example of a pulmonary circulation contracted to "one-twentieth" with the known conditions of the mammalian heart present would not only give the right heart a great deal more to do, but would probably burst or stop it altogether. But a ligatured abdominal aorta would not be conducive to an easy circulation through the left heart, and I fail to see that either the one case or the other has much to do with the question under consideration.

Finally, nothing seems to me more instructive as to the influence of diminished labour from quantitative and qualitative rather than innervational causes in the circulation being chiefly concerned in producing the differences between the right and left heart, than the changes which occur in these respects when the fœtal is transformed into the aerial circulation at birth. Dr. Campbell might contend that increased vasomotor action was the cause of left ventricular increase after birth, but surely he will grant that the withdrawal of the right ventricle from direct participation in the work of the systemic circulation cannot be without considerable influence. That this is the most important factor in this connexion will, I think, be conceded by most, and until better evidence is adduced to the contrary I am contented to err with the majority. I am, Sirs, yours faithfully,

ALEXANDER MORISON.

Upper Berkeley-street, W., Aug. 15th, 1896.

"'GONOCOCCUS' PYÆMIA."

To the Editors of THE LANCET.

SIRS,—I have read in THE LANCET of Aug. 15th the annotation on this subject founded on a paper by Dr. E. Finger published in the *Wiener Klinische Wochenschrift*, 1896, p. 248. As the conclusions therein are at variance with those at which I have arrived I crave your indulgence to refer to them. I am astonished to find the following statement: "It is generally acknowledged that many complications of gonorrhœa, such as arthritis, tenosynovitis, periostitis, endocarditis, and pleuritis, are dependent upon the presence of gonococci, the organisms being carried from the point of local infection to distant parts."

In cases of arthritis gonococci have been detected and cultivated; in the other complications mentioned no such proof has been furnished. Gonococci (?) have been described embedded in the tissues, but the difficulty of isolating and cultivating the organisms has prevented conclusive proof, and until this is forthcoming we cannot ascribe morbid changes to the presence of gonococci when it is uncertain whether we are really dealing with these organisms.

Although gonococci have been demonstrated in, and cultivated from, the pus in cases of arthritis, I am disposed to think that the majority of such cases are due to the invasion of pus organisms, and that arthritis following gonorrhœa is of two kinds: (1) caused by the gonococcus or its products, and (2) caused by pus organisms (staphylococci and streptococci). As to the special action of the gonococcus on the tissues attacked—e.g., a mucous surface—my own observations[1] show that there is considerable activity on the part of the gonococci with consequent destruction of the mucous surface. This can be readily demonstrated by repeated examination of the pus from a case of gonorrhœal arthritis in the male, where in the early stages there is copious shedding of the epithelium together with a rapid process of cell destruction due to the invasion of the gonococcus. The gonococci are most

[1] The Etiology of Gonorrhœa, Transactions of the Obstetrical Society of London, July, 1896. The Diagnosis of Gonorrhœal Inflammations, West London Medical Journal, April, 1896.

numerous before the discharge has assumed that appearance to the naked eye which we associate with pus; moreover, a large number of gonococci is never seen in conjunction with a large number of pus organisms, these (the pus organisms) being most numerous in the later stages.

From my investigations I am led to infer that an inflammation caused by the gonococcus alone would be non-purulent and of the adhesive variety. The effect on the tissues invaded by the gonococcus is to convert the soil attacked into a suitable medium for the growth and development of pus organisms.

These facts are supported by the results obtained from cultivations of the gonococcus, where the difficulty of obtaining pure cultures on a suitable medium is increased owing to the tendency of other pus organisms to overgrow the gonococcus.

In conclusion, I would emphasise the necessity of combining the results obtained in the laboratory with ascertained clinical facts in order that we may arrive at conclusions which will stand the tests of time and experience.

I am, Sirs, yours faithfully,

Mayfair, W., Aug. 18th, 1896. F. J. McCANN.

"THE REMUNERATION OF LOCUM-TENENTS."

To the Editors of THE LANCET.

SIRS,—Having had twenty years' experience of principals and locum tenents, and making hundreds of such engagements every year, I may perhaps be permitted to reply briefly to your correspondent "Locum Tenens." He is quite correct in his contention that three guineas a week, board and lodging, and second-class fare is the minimum and usual remuneration for a substitute, and anything less than that rate it is derogatory to a properly qualified gentleman to accept. All the blame, however, should not be laid on the principals' shoulders. During the past month I have had some forty applications for "Locum Tenents" at £2 2*s.* a week or less. On pointing out to the applicants that they are offering less than the usual fee, I have found that in most cases they erred in ignorance of the custom rather than from any desire to undervalue the services of their professional brethren, and they promptly offered the usual rate. Of the few who objected the less said the better. The remedy lies with the locum tenents themselves. So many young qualified men are, in their eagerness for work, ready to accept low fees that professional dignity and *amour propre* are too often forgotten and engagements accepted that should be declined. If these gentlemen will one and all refuse to accept less than the recognised scale and agents refuse to book the vacancies I feel sure principals will not be slow to recognise the justice of the locums' claims and a better understanding will be arrived at all round.

I am, Sirs, yours faithfully,

PERCIVAL TURNER.

Adam street, Adelphi, W.C., Aug. 24th, 1896.

To the Editors of THE LANCET.

SIRS,—When your correspondent "Locum Tenens" has settled down and has his own practice he will perhaps be not quite so hard upon the practitioner who pays a locum-tenent only a couple of guineas "or even less" a week. It is not, he will then perhaps see, always "meanness" which dictates such a course. Many and many a man in these hard times cannot possibly afford more, and so he grinds on year after year without a holiday till at last the time comes when the alternatives are "go" or "breakdown." Surely there is small blame to him if he tries to find a competent, trustworthy substitute for the (after all) not absolutely starvation pay of two guineas a week and "all found." And as he himself is certainly going to travel third-class he may perhaps be excused for thinking that his locum-tenent might be content with a third-class ticket too. No class in the profession has so far suffered less in the general depression than have the locum-tenents—except perhaps the big men at the top of the tree—and it is a little trying to hear one of them now begin to cry out on us poorer practitioners as "mean" because we cannot pay a fee which was established as the proper and fair one in far other and more prosperous days. Of course, three guineas a week and "all found" considered in the abstract is not excessive considering the expense in time and money of qualifying, but it compares very favourably indeed with the £300 or £400 and "nothing found" which, less professional expenses, constitutes the yearly income of so many hundreds of us.

I am, Sirs, yours faithfully,

Aug. 24th, 1896. FAIRNESS.

"DIRECT REPRESENTATIVES ON THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—At the usual anniversary meeting held yesterday of the Colchester Medical Society the following gentlemen were unanimously nominated as candidates for the vacant seats in the General Medical Council: Dr. Rentoul, Dr. Drage, Mr. George Brown. No other names were submitted to the meeting, and it was held that as these gentlemen had in the past maintained the rights and interests of the profession they would not fail to uphold its true status and *esprit de corps* in the new position it was desired they should fill. I am, Sirs, yours faithfully,

GEORGE BROWN, M.D. Glasg., Hon. Sec.

Headgate, Colchester, Aug. 26th, 1896.

A CAREFUL JURYMAN.

To the Editors of THE LANCET.

SIRS,—THE LANCET of Aug. 22nd has a comment respecting a recent inquest held upon a man who received fatal injuries whilst returning home from St. Thomas's Hospital, where he had been treated for a scalp wound. Some members of the jury doubted the propriety of the house surgeon having treated this man as an out patient on the ground that had he in the first instance been detained in hospital he would not have met with the second accident (!). It is to be feared that the intelligence of the average coroner's juryman is not of a very high order, and this case recalls one, in which I was the medical witness, occurring at the Lambeth Court in 1893. The deceased was a woman who received fatal burns from the upsetting of a lamp which she was carrying while ascending a pair of steps in order to examine the water-cistern. There had been a leak in the cistern, and she used now and then to ascertain the amount of water present, fearing the supply might run short. Evidence was given to this effect and the coroner directed the jury to give a verdict of "Accidental death," but one sage member shook his head and "wished to have the cause of the leak investigated."

I am, Sirs, yours faithfully,

Upper Tooting, Aug. 24th, 1896. EDWIN SMITH, M.D. Lond.

THE NAILS AS AN INDEX OF DISEASE.

To the Editors of THE LANCET.

SIRS,—In a brief but interesting note in THE LANCET of Aug. 22nd, Dr. T. H. Davison records a case of "Temporary Arrest in the Growth of Finger Nails following Colles's Fracture," where the thumb nail was exempted from the arrest, and he asks for an explanation of the occurrence and the exemption. The case seems to me to be one of more than passing interest. These transverse grooves in the nails are not uncommon after scarlet fever, typhoid fever, and attacks of many other acute illnesses; and they often serve as a guide to the date of maximum intensity. They serve also as evidence of a febrile complaint in cases where it is desired to know whether a patient has had scarlet fever or other disease. The precise explanation is disputed, and, as in other obscure phenomena, the nervous system is often supposed to account for it. But from many examples I have seen, which need not now be mentioned, I have formed the belief that it is to the bloodvessels or to changes in the blood we should look for the true explanation, and Dr. Davison's case undoubtedly supports this view. In his case the grooving of the nails was obviously due to an involvement of, or pressure on, either the vessels or the nerves by the callous at the seat of fracture or to involvement of both; but, had it been due to the nerves only, the first, second, and half the third finger nails only would have been affected, for it is these which are supplied by the radial nerve; but the nails of all four fingers were affected, and these are all supplied by digital branches from the posterior carpal arch, which is formed by the junction of the posterior

carpal branch of the radial artery and the posterior carpal branch of the ulnar. One can readily understand that if the posterior carpal branch of the radial, which comes off exactly over, and runs transversely across, the seat of Colles' fracture, were pressed on, or, may be, obliterated, these four finger-nails would be deprived of half their blood-supply until a compensatory supply from the ulnar artery had become established. The reason the thumb escaped is because the dorsalis pollicis branch of the radial, which supplies the thumb-nail, comes off a good two inches lower down, quite clear of the fracture. A glance at Fig. 221 in "Gray's Anatomy" will make this explanation clear, and I for one am much indebted to Dr. Davison for clearing up a matter which, for lack of clinical evidence of this kind, has been erroneously attributed to the nervous system when in reality it is due to a disturbance in the circulatory system.

I am, Sirs, your obedient servant,

THOMAS D. SAVILL, M.D. Lond.

Upper Berkeley-street, Aug. 22nd, 1896.

THE RESPONSIBILITIES OF THE EMPLOYER.

To the Editors of THE LANCET.

SIRS,—I would feel obliged if you or any of your numerous readers could give me information on the following point. A medical man keeps an unqualified chemist to dispense his own prescriptions only (no retail). Would such chemist or the medical man be liable to prosecution should a prescription dispensed by the former be found on analysis to contain a scheduled poison?—I am, Sirs, yours faithfully.

Aug. 24th, 1896. ECOSSAIS, M.B.

*** A medical man is allowed to prescribe all remedies, scheduled or unscheduled. The qualifications of his dispenser do not enter into the question. The medical man is responsible entirely. His dispenser merely does as he is told by word of mouth or written formula. He should not be employed by the medical man unless he is competent to carry out instructions; but he has no share in the responsibilities of prescribing.—ED. L.

HOSPITAL ABUSE.

To the Editors of THE LANCET.

SIRS,—Having decided to examine this subject I visited regularly for the past few months the out-patient departments of several London general and special hospitals. I found (1) that the majority of the patients attended for ordinary ailments—viz., minor accidents, bruises, ulcers, abscesses, indigestion, constipation, coughs, and uterine discharges, &c.; (2) that about two out of every six patients could pay the required reduced fee charged by many of the smart general practitioners who abound in almost every district and who keep comfortable, well-equipped surgeries; (3) that in both sets of hospitals it was absolutely scandalous to treat several of the patients so superior were they in dress, genuine jewellery, &c.; and (4) many of the patients asked for medicine "for a fortnight" or for "three weeks," as they were going for a holiday to the "seaside."

I spoke to several of the surgeons and physicians on the subject of the abuse prevalent, when they all deplored it, but pointed out that so desirous were the secretary and lay committee of the hospital to treat the largest number of out-patients, they, the staff, could not decline to do so unless they were prepared to resign their appointments. I now beg to offer the following suggestion, which might be adopted in some form to put a stop to this monstrous fraud that is being carried on under the garb of charity. The hospital secretary and hospital promoter and lay committee have had their unfettered turn, and they have, to use a mild term, failed. Let those professional gentlemen who hold hospital appointments, and those who aspire to hold such positions, combine and form an association to enable them to act individually and collectively; let them, when, for instance, they see fit, recommend improvements in the medical department of their respective hospitals, and decline to treat any patient whom they consider ineligible and then stand the consequences. Should any member be called on to resign for so declining the entire medical staff should at once threaten and if compelled to adopt that course resign *en bloc*, and, as has been proved in Liverpool, success would follow in time, and the hospital secretary, promoter, and lay committee would very soon cave in and find their own level. The general practitioners would resume their practical appreciation and remunerative confidence in the hospital specialist, there would be employment for hundreds more of our profession, the people would cease to be demoralised, and the subscribing public would not be defrauded as they are at present, and part of the money now expended on those who can afford to pay for advice and medicine could be given to help other deserving charities.

I am, Sirs, your obedient servant,

London, Aug 19th, 1896. MEDICAL PRACTITIONER.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Tram Servants and their Meals.

IF the drivers and conductors of the trams now to be seen in every large town throughout the country are not treated with greater consideration than they are in Manchester their lot is not to be envied. Here their hours are long—sixteen hours a day, it is said—without any arrangements for getting a meal anywhere but in the trams. Some correspondence has been going on in the *Manchester Guardian* which shows that whatever the Manchester Carriage Company may feel, it is left for sympathetic passengers to bring the matter forward. It is a common sight on the last journey from town to the suburbs before the dinner-time—not dinner hour—to see a poor woman or a little girl bring a can of tea, with a basin wrapped in a cloth, to the car for the driver or the guard. As they near the stables, if the passengers are few, "the guard turns up one of the cushions, seats himself with his back to the passengers, and begins his dinner." When the terminus is reached it is the driver's turn, so he comes inside, goes up usually to the other end of the car, and eats his dinner, while his wife, with a child or two, waits to take home the can and the basin. Nominally I believe fifteen minutes are allowed for this purpose, but generally five minutes have to suffice. "Very often the guard drives while the driver finishes eating at a rate that would kill anyone else." This takes place twice every day. It is a proceeding not only devoid of all comfort for the men, but disagreeable to the passengers from the "dinnery" smell left in the tram. Even if the directors have no thought for the men, one would have supposed that self-interest, as to which they are usually alive, would have led them to make arrangements to save the passengers from a spectacle which excites pity and from smells that are obnoxious. This hurry-scurry cramming of their food is not good for the digestion of these men, and yet, as a rule, they are most civil and obliging. Imagine the scenes that would have occurred if poor, dyspeptic Carlyle had been a tram-conductor under such a *régime*. The *Manchester Guardian* in a leading article speaks of it as a "public scandal" and says: "These men, who cannot be spared for half an hour in the middle of the day, are working long hours at a wage of, say, some 20*s.* to 24*s.* a week. This is scarcely what one would expect in the administration of a wealthy and prosperous company." It is directed by men, some of whom pass for philanthropists, and illustrates in an unpleasant manner the deterioration of conscience when it becomes "corporate," for it is not to be supposed that individually any one of them would inflict cruelties of such a character on any dweller in their own households. But, as one of the correspondents, Dr. Rideal, says, "The Tramway men themselves, not being skilled labourers, are not in a position to make their own terms with the company."

Sanitary Museum for Manchester.

There is a good prospect that before long Manchester will be provided with a sanitary museum where all interested in the health of the city, either generally or as regards the condition of their own dwellings, may have object lessons in sanitary requirements and appliances. An important deputation waited the other day on the Manchester Technical Instruction Committee, "with a view to the provision of accommodation in the Technical School for a sanitary museum, and to offer on behalf of the Plumbers' Council as a nucleus the prize work in connexion with the competition which is now being organised." It consisted

of members of the Council for Manchester and District of the National Registration of Plumbers, the Manchester Society of Architects, the Manchester and Salford Sanitary Association, the Manchester Medical Society, the North-Western Society of Medical Officers of Health, and the Building Trades Association. Mr. Holden, chairman of the Plumbers' Association, said, "their object was to ask the committee to establish a museum of specimens of work, both good and bad, of sanitary appliances, with a view of instructing plumbers in the best methods of sanitary work and also teaching them what to avoid." He hoped their gift would be the nucleus of what might ultimately develop into a sanitary museum for the district. Dr. Leech, chairman of the Manchester and Salford Sanitary Association, strongly supported the request, and said it would be in vain to spend a large sum in draining the city if the internal sanitary arrangements of buildings were left ineffective through the ignorance or carelessness of plumbers. Other speakers followed. In reply Mr. Godlee and Alderman Harry Rawson assured the deputation that the Technical Instruction Committee would be most happy to receive the promised gifts and to carry out their ideas. It is well that the plumbers are so much in earnest in the matter, for the inefficient and dishonest among them have earned for the whole a bad name. One of the comments on the proposed museum is that it will enable people to protect themselves who are now victimised by "bold, bad plumbers."

Jubilee of Manchester Parks.

On Saturday last the jubilee of three of the Manchester and Salford parks was celebrated, and it was on Saturday, Aug. 22nd, 1846, that Philips Park and Queen's Park, belonging to the former, and Peel Park, belonging to the latter, were thrown open to the public. It was not until 1833 that the need for places of recreation and exercise began to trouble the minds of social reformers. The then member for Shrewsbury, Mr. Slaney, drew attention to the case of Manchester, where "187,000 persons were engaged in the cotton trade and manufacture, and yet not one of them could find an open space in the town or its vicinity where he could enjoy the vulgar luxury of a walk." Happily, it is not quite so bad as that now, but when the great increase of the population is considered it can scarcely be said that the provision of open spaces has kept pace with it. Votes are said not to be influenced by speeches, but speeches may bring about the formation of committees, for it was mainly as a result of Mr. Slaney's speech that a committee was formed to consider the best means of securing open spaces in populous towns. A letter was produced before this committee from the late Dr. Kay of Manchester (afterwards Sir James Kay-Shuttleworth), who gave a most gloomy account of the working classes of the town, saying that on Sundays they were accustomed to sink into "a state of abject sloth or listless apathy, or even into the more degrading condition of reckless sensuality." Nothing was done, however, till 1840, when another committee voted £10,000 to aid towns in constructing public walks. In 1844 a public meeting was held in Manchester, at which it was decided to secure two or more places of public resort, and £35,000 were raised by a subscription in which all classes joined. Peel Park was named after "the" Sir R. Peel; Philips Park after Mr. Mark Philips, the first Member for Manchester, and a generous contributor to the movement; and Queen's Park because there was no other space of ground in the kingdom honoured by bearing that name. The celebration at Philips Park was an enthusiastic one, and the thousands of Sunday-school children, with the various clubs, including the Antediluvian Order of Buffaloes, which walked in procession, together with a treat to the poor and aged and an assembly of 300 cyclists, showed an appreciation of the value of this open space by the people of the surrounding district, which is wholly occupied by the artisan class, that is encouraging to the sanitarian.

Aug. 26th.

WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Condition of Monmouthshire.

THE Monmouthshire County Council not having as yet appointed a medical officer of health, a report has just been presented by a sub-committee consisting of the medical members of the Council, Dr. T. Hall Redwood being the chairman. The report mentions that no less than eighteen districts are without isolation hospitals, and eight districts have not adopted the Notification of Infectious Diseases Act. It is stated that the drainage, and sewage and refuse disposal systems are still very primitive and unsatisfactory in many districts and that the rivers in the western division of the county are practically open sewers and the receptacles of all kinds of refuse. As the Council have repeatedly called the attention of the authorities to this subject without effect, the sub-committee consider it is time to take some more active steps to prevent these pollutions. The report adds that the water-supply is bad in several places. In conclusion it is pointed out that four things especially require the serious attention and active interference of the Council—(1) the water-supply of the different districts; (2) the adoption of the Notification of Infectious Diseases Act; (3) the provision of isolation hospitals either separately or in combination; and (4) the pollution of the rivers.

The University College of South Wales.

Last week the Marquis of Bute signified his intention of contributing £10,000 to the University of South Wales, to be applied for the purposes of technical education. The public appeals made on behalf of the fund for the proposed new college extension have been responded to in a most generous manner, with the result that up to the end of last week £20,000 has been promised. The college authorities are now entitled to the provisional contribution of £10,000 offered by the Draper's Company, and the Government grant of £20,000. The appeal of the Governors of the College is for £30,000 so that £10,000 more remain to be collected by public subscription. In order to carry out the extensions all the funds that have been asked for will be required; and no efforts will be spared by the authorities in collecting the requisite amount.

The Pembroke Dockyard Water-Supply.

As a result of the recent action of the Admiralty the inhabitants of Pembroke Dockyard will in the future have an efficient water-supply. So far they have been dependent for their supply upon the wells and cisterns. This fact proved inconvenient to the Admiralty and as a result notice was given to the town authorities that if the supply were not remedied the Hobb's Point Pier would be closed. Mr. Austen Chamberlain, on being communicated with, refused to receive a deputation unless it was provided with plans for the proper carrying out of waterworks sufficient to meet the Admiralty requirements. Eventually a deputation of aldermen and councillors attended and agreed on behalf of the town to carry out works in accordance with plans submitted by Mr. Beesley, C.E., which would increase the supply of water of 6000 gallons daily for the whole population by the addition of 20 gallons daily for each inhabitant. This having been considered to be satisfactory by the Admiralty, the work in the dockyard will be proceeded with immediately, much to the gratification of the inhabitants.

"American Dentistry" at Cardiff.

At the Cardiff Police-court on Aug. 13th the Bristol Dental Association prosecuted Mr. N. A. Givovio for acting as a dentist under the style of the "American Artificial Teeth Company," he not being a legally qualified dental practitioner. The defendant, who held a Californian degree, was not registered in England. Since the summons had been taken out defendant had disposed of his business and left the town, consequently the prosecution only asked for a nominal penalty. The stipendiary magistrate imposed a fine of 1*s.*, remarking that he supposed the prosecuting solicitor would say, "Thank God, we have got rid of a knave."

The Notification of Measles at Cheltenham.

At the August monthly meeting of the Cheltenham Town Council a recommendation of the Public Health Committee to declare measles an infectious disease which should be compulsorily notified raised considerable discussion, the two medical men on the council not agreeing as to the desirability of such a course; and eventually an amendment was moved and carried which negatived the wish of the Committee.

The Newport Board of Guardians and the Vaccination Commission.

At the last meeting of the Newport (Mon.) Board of Guardians a list of vaccination defaulters was submitted for prosecution. Some of the guardians drew attention to the recommendation of the Royal Commission that vaccination should not be insisted upon when parents made a written

declaration objecting to it, and the board consented to stay the prosecution for a month.

The Health of Bristol for the past Quarter.

DR. D. S. Davies states that during the thirteen weeks ended June 27th there were registered in the city of Bristol 1604 births and 959 deaths. The births corresponded to an annual rate of 27·9 per 1000; the death-rate was 16·7 per 1000. Among the 959 deaths in the city last quarter there were 198 of infants under one year and 242 of persons aged upwards of sixty years. The deaths of infants were in the proportion of 123 per 1000 births as registered during the same period. In the thirty-three large towns the infant mortality last quarter averaged 141, and was 18 per 1000 births higher than in Bristol. The zymotic death-rate in Bristol last quarter was 2·6 per 1000. In all, 148 deaths were due to the principal zymotic diseases—viz., measles 77, scarlet fever 18, diarrhœa 18, whooping-cough 16, "fever" 8, diphtheria 7, and small-pox 4.

Bequest to the Swansea Hospital.

The late Rev. C. W. Grove of Tewkesbury has bequeathed £5000 to the Swansea Hospital.

Aug. 26th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The Removal of Fever Patients.

AN important legal decision in connexion with the removal by the sanitary authorities of patients suffering from infectious diseases has recently been pronounced in the Glasgow Sheriff Court. It appears that in October of last year a child aged six years having contracted scarlet fever was, on the 17th of the month and with the parents' approval and consent, removed to one of the corporation fever hospitals, where she died on Nov. 1st. The removal was effected in the ordinary way, and according to the parents' view the child was unduly exposed during the removal and as a result of this exposure subsequently died. As the removal was accomplished under the superintendence of the corporation servants it was contended that the authorities were liable for the event, and that they ought to pay a substantial sum as damages to the parents. This view has been sustained by Sheriff Guthrie, who has found as a matter of fact that the child did die as a result of undue exposure, and has decided that the corporation is liable. The damages have been fixed at £50. The learned sheriff in a note appended to his decision expresses the view that the authorities, having undertaken the removal, were bound to carry it out with proper reasonable care, and he rejects the suggestion that as the mother was present when the child was taken from the house to the fever van it was her duty to see that the patient was adequately clothed. The sheriff also draws attention to the fact that the authorities removed the child without having any medical opinion as to her fitness to bear removal. The usual notification certificate had of course been sent in, but this did not contain any expression of opinion with regard to the removal of the patient, and his lordship expresses a doubt whether the consent of the parents can be rightly taken as a guarantee of freedom from risk. He expresses a decided opinion that when removal is to take place it should be accomplished by, or under the superintendence of, a trained nurse and not left to the management of the van-driver; and he raises the question whether the authorities ought not to have a definite medical opinion that removal may be accomplished without prejudice to the patient before they undertake the responsibility of conveying the patient to the hospital.

Western Infirmary, Glasgow.

The directors have determined to establish an installation of the electric light in the infirmary, and the comparative quiet of the long vacation is being utilised for this purpose. Every modern improvement is to be adopted, so that the lighting of the wards, theatres, &c., may be complete. The supply of the current will also be available for medical and surgical purposes. Considerable progress has now been made with the three new operating theatres, and it is hoped they will be ready for use in the course of a few months. The new pathological institute is also in a forward state and will be occupied before the commencement of the winter session. It is intimated that the session this year will open on Oct. 15th.

Lord Kelvin and Failure.

At the banquet given in his honour in July last Lord Kelvin in his speech remarked that "the one word characterising my fifty-five years of labour is—failure." This remark has led to some misunderstanding in certain quarters, and M. de Fonvielle, a distinguished scientific journalist, has written to Lord Kelvin congratulating him upon the "failure of the atomic theories." In reply Lord Kelvin expresses his regret at the misunderstanding, and goes on to say: "I do not allude in this passage to anything which I am in the habit of teaching either in my classes or in my published works. I am as much convinced as ever I was of the absolute truth of the kinetic theory of gases. All I know is I have not succeeded, in spite of fifty years of effort, in understanding more about the luminiferous ether or the manner in which it operates in regard to the electrical and magnetic forces. It is on this point I remain as ignorant as I was fifty-five years ago when I first became convinced that the ether operated essentially in all these actions."

New Meteorological Station on Ben Nevis.

A new observatory has recently been erected about halfway up Ben Nevis. The principal objects are to determine with greater precision than has hitherto been possible the extent to which anticyclones descend on the mountain, and to obtain records of temperature, pressure, and humidity for comparison with those noted at the summit and at Fort William. With this knowledge the inquiry into the character of coming cyclones as regards their shallowness or depth, and of the accompanying anticylones will be greatly extended, particularly in view of the important practical question of forecasting the weather. The instruments to be used are a new Fortin barometer with extended scale adapted to the height by Mr. Casella of London, dry and wet bulb, and maximum and minimum thermometers; rain gauge, and instruments for measuring solar and terrestial radiation. The erection of the new laboratory has been promoted by the Meteorological Society, and the observations are to be made and recorded by Mr. Muir, one of the assistant masters in the Edinburgh High School.

Hospitals for Phthisical Patients.

About three years ago a farm called Carsemeadow, not far from Bridge of Weir in Renfrewshire, was purchased with a view to the erection of hospitals for the treatment of patients in the early stages of phthisis; the property contained about eighty-six acres and cost £6800. Mr. Quarrier, well known as the founder of the Orphan Homes, which stand in the immediate neighbourhood has exerted himself in behalf of the new scheme, and hopes that eventually seven detached hospital buildings will arise on the new site. The first hospital, the memorial stone of which was laid by Sir William Arrol in 1894, is three storeys high in its central portion. Professor Gairdner of Glasgow University has expressed a most favourable opinion both of the general objects of the scheme and of the methods which have so far been adopted by its promoters.

Aug. 26th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Wholesale Milk Adulteration in Dublin.

THE adulteration of milk in Dublin has of late become a serious evil, with which the ordinary methods of punishment are apparently unable to deal. Week after week fines of an obviously inadequate amount are imposed on dairy owners, while the tenders of people many times found guilty are accepted by our unions, union infirmaries, and general hospitals. I noted recently in THE LANCET an energetic attempt on the part of the South Dublin Union, backed up by the corporation, to deal radically with the matter. I have now to report regretfully that the effort has practically failed after prolonged investigation and expense. The facts are as follows: In the Southern Divisional Police-court the hearing of adjourned summonses was resumed on the 21st, Sir Charles Cameron, the city analyst, being in attendance. One of the summonses was for supplying on June 10th new milk which, according to the certificate of Sir Charles Cameron, contained at least 16 per cent. of added water and 2 per cent.

of starch. Mr. Rice, who prosecuted on the part of the corporation, stated that a sample of this milk had been forwarded to Somerset House for analysis and that the report from that department, after referring to a change having taken place in the milk, stated that the sample afforded no evidence of added water, but that one-sixth of 1 per cent. of starch had been added. Owing to a technical legal objection Sir Charles Cameron was not permitted to give evidence in support of the accuracy of his certificate, while Mr. Rice was refused an opportunity of questioning the analyst of Somerset House, whose examination of the sample of milk was made six weeks after that by Sir Charles Cameron. One would think that even the most unscientific of magistrates would have recognised the comparative worthlessness of a chemical examination of such a notoriously unstable article as milk after a delay of six weeks. Mr. Swifte said, indeed, that the delay might explain the discrepancy between Sir Charles Cameron's certificate and that of Somerset House. Both analysts, he said, agreed as to the presence of starch in the milk and differed only as to the amount of it. He (Mr. Swifte) stated on a former occasion that he would "put on a substantial penalty if any adulteration at all should be shown in a case like this where milk was supplied in large quantities." Inquiry was now made as to previous convictions when it was found that in February, 1895, and in August, fines of £5 and £3 respectively were imposed on the defendant. Now appears the ridiculous outcome of this mountain of investigation in the shape of the absurdly small fine of £3, with 10*s.* 6*d* for the analyst's fee. The defendant is doubtless satisfied and will probably very soon tender again to supply the many hundred inmates of the South Dublin Union with milk of the peculiar description which he keeps in stock. Sir Charles Cameron has taken the trouble in a long letter to explain the apparent discrepancy between his certificate and that of Somerset House and to show that an analysis of milk which is six weeks old cannot be very reliable. He quotes the opinion of two distinguished public analysts, Mr. Otto Hehner and Mr. Alfred Allen. The former says: "There cannot be the slightest doubt that starch will vanish from milk as soon as decomposition is active and bacteria flourish." Mr. Allen says: "In my opinion the tendency of starch to undergo change in the presence of meat acids would invalidate any determination in milk which had been exposed to a summer temperature during several weeks." It certainly will strike most people as very surprising that with our present knowledge of organic chemistry the authorities at Somerset House would have ventured to report at all as to the original condition of milk which was never sterilised but kept in the ordinary way for six weeks.

The Derry Lunatic Asylum.

There is a great deal of difference of opinion at present in county Derry in reference to the proposed location of the new asylum. Even the governors are divided in their views. Some adhere to the original plan of building a new asylum at Gransha, others propose that the present buildings should be enlarged by adding the Foyle College grounds, while the rural taxpayers are protesting against further expenditure of money in the present depressed condition of agriculture, and suggest the utilisation of the numerous almost empty workhouses in the county. The Derry corporation have met and passed resolutions calling on the asylum authorities to go on with their scheme of erecting a new institution at Gransha, as they say the growth of the city of Derry is retarded by the present position of the asylum in the centre of the city, and would be still more so if Foyle College grounds were added. Further, the Board of Control, having entered into a contract with the Derry corporation through the board of guardians for a water-supply to the new asylum at Gransha, the corporation have taken steps to enlarge the catchment area so as to secure an abundant supply and to meet the increase of the district for all time. The Derry Chamber of Commerce have also unanimously decided to write to the Lord-Lieutenant asking that the work at Gransha should be proceeded with without delay. It is to be hoped that the matter will soon be settled.

The Royal Hospital, Belfast.

At the quarterly meeting of the general committee, held on Aug. 24th, it was reported that during the previous three months 529 patients were treated in the intern and 6618 in the extern departments. At the close of last quarter the hospital was in debt £1141 14*s.* 9*d*. Since then the receipts from all quarters have been £2138 18*s.* 11*d*. and the expenditure £2192 15*s.* 2*d*., making the indebtedness at the end of July £1195 11*s*. It is a serious matter that for the past eleven months the expenditure has exceeded the receipts to the amount of £553 6*s.* 2*d*. Dr. J. A. Lindsay was re-elected physician and Dr. T. K. Wheeler staff surgeon.—The board of management of the hospital, on the recommendation of the medical staff, have appointed Dr. Smith assistant in the ophthalmic department and Dr. W. J. Woods assistant in the gynæcological department. The appointments (which are for one year, but each candidate is eligible for re-election for another twelve months) were made by examination, and for the post which Dr. Wood holds there was a keen competition.

The Health of Belfast.

The high death-rate of Belfast and its general unhealthy condition are exciting a great deal of comment at present. A special committee appointed by the Corporation are meeting twice weekly to inquire into the matter; and one of the local papers—the *Northern Whig*—is publishing a series of articles on "Belfast and its Death-rate." In the first of these jerry-building, which is so notorious in Belfast, is attacked and in the issue of Aug. 15th the opinions of four medical men are quoted. One assigns as the causes of the high death-rate of the city bad sanitation, deleterious food, overcrowding, and drink; another, while accenting these causes, says that after all it is bad sanitation which is responsible for the greater part of the preventable disease of Belfast; a third practitioner thinks that the sanitary state of Belfast from a public point of view is as bad as it can well be, and he also blames the jerry-building; and a fourth medical man declares that Belfast possesses more rotten sewers and jerry-built houses within its area than perhaps any town in the three kingdoms. There is no doubt that the public is awakening to the truly terrible condition of Belfast from a health point of view, and it is to be hoped that real and permanent good will arise from the present outcry.

Queen's College, Cork.

Dr. A. A. H. McArdle, who obtained first place at the examination held on the 7th inst. for appointments in Her Majesty's Indian Medical Service, was educated at the Cork Queen's College, where he had a distinguished career. Last October he graduated at the Royal University with honours and took first place out of all Ireland. Immediately afterwards he was appointed Demonstrator of Anatomy at the Cork College and discharged his duties with characteristic zeal. As Dr. McArdle was always a great favourite with his professors and fellow-students his recent success has afforded unqualified satisfaction.

Ought Poor-law Medical Appointments to be Thrown Open to Competition?

A clergyman has written to one of the Cork papers suggesting that candidates for dispensaries ought to be selected by competitive examination. Against such an arrangement there is, of course, the objection that a man of mature experience and judgment might have forgotten much book work, and so would be likely to be defeated by a candidate fresh from the schools. But any arrangement would be preferable to the present one, which may be described in two words—mere favouritism.

Aug. 25th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"The Great Sin of Great Cities."

PROSTITUTION is a growing evil in Italy, and its nemesis, syphilitic disease, is correspondingly on the increase. Attempts to control it are made from time to time, but hitherto with the result of driving it more and more into clandestine channels. The sanitary vigilance enforced against it and its pathological sequelæ thus loses in efficiency till venereal maladies of every kind are becoming a formidable menace to the public health. In these circumstances the Prime Minister, the Marchese di Rudinì, who also holds the portfolio of the Interior, has addressed a circular to the prefects throughout the kingdom calling upon them to enforce the regulations imposed by law for the surveillance of prostitution and its victims and reminding them of what they seem to have forgotten—that the said regulations are not only within their own competence but

especially within that of the Syndics. These latter functionaries, according to his Excellency, have been negligent or worse in this department of their duty, ignoring the powers conferred on them by the first article of the law of Dec. 22nd, 1888, which constitutes them "sanitary authorities" charged with the safeguard of the public health. It is to them, therefore, that the circular is more immediately addressed, and accordingly "d'ora innanzi" (from this day forth) they will have to exercise scrupulously the powers reposed in them; see to the periodical inspection by their sanitary officers of the females frequenting licensed houses or possessing certificates to practise their *métier;* report to the "Pubblica Sicurezza" those of them who, consequent on such inspection, are recognised as suffering from venereal disease; and, finally, secure the consignment of all such cases to the *locales* set apart for their care. The prefects are to obtain from their subordinates the information so collected and transmit it to the Ministry of the Interior every six months—that is to say, within the first fortnight of the January and July of each year. By such methods alone will that Ministry be in a position to cope with what the Marchese di Rudinì characterises as the "diffusione, sempre crescente, delle malattie celtiche," with "gli altri gravissimi inconvenienti che dovunque si lamentano in cotesta materia" (the ever-increasing spread of venereal diseases with the other most grave sequelæ which are everywhere deplored as thence originating). The circular, in fact, comes not an hour too soon. In a country like Italy, where even in the army and navy the regulation diet is none too generous or sustaining, the diffusion of such maladies is a public disaster, the low resisting power of the people not only favouring lesions of a kind unknown in better-fed communities, but depressing the standard of health by hereditary deterioration. The gross negligence with which the inspection of prostitutes was quite recently practised in garrison towns (Ravenna had an unenviable notoriety among these) compromised seriously the efficiency of the troops already exposed to insanitary conditions, inducing frequent illness and even premature breakdown.

Diphtheria.

The late Mr. John Ormsby, whose versatile accomplishments included not only extensive and profound Spanish scholarship, but rare knowledge and skill as an Alpine pedestrian, proposed, in one of his humorous papers, that a map should be constructed representing, by lighter or darker shades, the insanitary spots—particularly those in which dirt and untidyness were most prevalent in the European States. The blackest sections of such a map, he went on to say, would undoubtedly be the Italian slopes of the Alps, where the inhabitants were content to live under domestic conditions hardly more civilised than when they were witnessed by Hannibal or described by Livy. It is that region that contributes most frequently to the reports of outbreaks of diphtheria with which Italy is from time to time "startled" (I was going to say), or, at least, thrown into temporary alarm. These sudden and violent outbursts of infective poison have tended to become more common, as some of her best sanitarians (and THE LANCET before them) predicted would ensue on the introduction of sero-therapy—the knowledge that they possessed a "sovereign remedy" for the disease, arresting, among the more backward of the population, what little progress they were making in the hygiene which minimises zymotic maladies of all kinds. Professor Ruata of Perugia sounded an opposition note of warning in this sense, but, as usual, his words of wisdom fell dead on ears alive only to the "miraculous cures" effected by the Behring injections. From Bergamo comes intelligence of a very serious outbreak of diphtheria, the sub-alpine population of Boccaleone being thrown into consternation by the widespread virulence of the malady. Fortunately, that community is well supplied with medical men, and not a few of the patients are announced as already convalescent. But now that the diphtheritic poison seems to have picked off its tale of "candidates" let us hope that the next announcement from that, as from other, sub-alpine quarters will be the initiation and prosecution of those sanitary works the neglect of which alone makes diphtheria possible. A pure and abundant water-supply and the free passage of fresh air through the dwelling-houses should, in combination with well-scavenged streets and effective drainage, prove an easy as well as salutary innovation in the Bergamasque country.

The Medical Prisoners of King Menelik.

The Ethiopian king and his court are not averse (it would appear) to conciliate the good opinion of civilised Europe, and certainly their treatment of the medical officers made prisoners of war tends to corroborate that impression. Letters received from several of these officers represent their life as (all things considered) a not unpleasant one, and they are unanimous in praising the demeanour which King Menelik maintains towards the profession. Dr. Luigi Mauri, lieutenant-surgeon in the Alpine battalion, writes to his brother in Forli that "Menelik ricolma i medici di cortesie" (loads the medical men with kind attentions), providing each of them with two servants, placing at their disposal an excellent Italian cook and also a major-domo "educato e simpatico" (well-bred and congenial). Having ascertained that they wanted to set up a pharmaceutical dispensary, King Menelik encouraged them in every way and presented each of them with ten dollars *ad hoc.* Another medical prisoner writes to his family in Lombardy that the king is at special pains to show his respect for the army surgeons, finding them medical employment and remunerating them handsomely for it. The writer (Dr. Nicola d'Amato, sub-lieutenant-surgeon) adds that they have been accommodated by his Majesty in six excellent huts, the envy and admiration of all; that he allows them the free use of their surgical instruments, their books, and medicine chests; and, referring to the pharmaceutical dispensary mentioned by Dr. Mauri, he says it has been so liberally subsidised by the King as to court comparison with an ordinary European one. They fare generously, not to say sumptuously, on bread and meat, coffee and honey, for which they can afford to pay out of the fees his Majesty allows them to earn. King Menelik, he concludes, "wishes well to the doctors." Of the circumstances in which those other medical prisoners are found who are in custody of the inferior chiefs we have yet to hear. Dr. Paolo Pacci of Pistoia, for example, a distinguished graduate of the Bologna school and winner of the Riberi prize at Rome ("the blue ribbon of medico-military competition"), is one of these. He went out to Africa with the first reinforcements, and on the field of Abba Carima performed many operations on the wounded under fire. He was so employed when he found himself hemmed in by the enemy and a prisoner of war. The latest news of him was that he was in the hands of Ras Olié, but whether in good health or enjoying the civilised treatment vouchsafed to his brother officers by King Menelik is not reported.

Aug. 22nd.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Abbassiyeh Cantonment.

THE British troops in the desert three miles outside Cairo ought to be in the most favourable hygienic surroundings, and, as a matter of fact, in one of the regiments there are only five men on the sick list at the present moment. But during the past week there have been four deaths, one from delirium tremens, two from heat apoplexy induced by drink, and another that of a man who died from the effects of a fall while riding on duty. He jumped over a low mud wall, his horse bungled and turned a somersault, and he fell with his head on soft ground, but he lacerated his brain and died from hemiplegia shortly after. It is significant that although both men were popular there were many more volunteers to attend the funeral of the drinker than to go to the cemetery with the man who died on duty. The Queen's Bays have reduced their regimental drunkenness to a minimum, partly by imprisoning any man found to be drunk four times during the year. The Connaught Rangers ought to take some serious steps in this direction, for the reputation of their men for alcoholism is unenviable.

Boulaq District of Cairo.

The Sanitary Department continues its work of inspection and cleansing of Cairo, with the result that now the mortality in Boulaq and some other quarters is lower than usual. Twenty-one native bakeries were found to be begrimed with filth, and pending any law on the subject they were thoroughly lime-washed without and within, which at least makes them look cleaner. Boulaq possesses no fewer than 1245 food shops of all kinds, and these also

were found out and purified. This number includes public kitchens, cafés, bakers' shops, fishmongers' shops, and all establishments for selling fruit, pickled vegetables, sweetstuff, beans, &c. There is already a law in existence for controlling butchers' shops and dairies, so that they were regulated without trouble. After inspection of the poorest quarters 6769 hovels and houses were found to be in a condition of indescribable filth, and they were all whitewashed and when possible partly ventilated. To the poorest inhabitants quicklime was freely given by the Government, but in most cases the work was carried out by the owner or tenant. The Wakfs set a very bad example in this direction, and had to be forced to carry out the requirements of the law for combating epidemics. In their case, and in that of many other professed pillars of the Mussulman religion, the governor allowed the sanitary officials to carry out the work and afterwards to reclaim the cost from the house owners. In Boulaq alone there are thirty-five collections of small houses inhabited by the poorest classes, all unprovided with drinking-water or conservancy arrangements. Measles was rife here in May and June, and it is a wonder that typhus fever is ever absent. Perhaps the worst instance is that of an *eshesh*, or collection of hovels, which has been built during the last ten years. The inside measurements of the smallest of these hovels is a cube of 6 feet, inhabited on the day of measurement by a full-grown man with his wife and two small children. The hut had a thick roof of mud and no window, but there was a door measuring 2½ ft. high and 1½ ft. wide. The rent of this hovel is 13*s.* 6*d.* a year, which gives some idea of the poverty of the people who have to occupy it. There are many similar hovels and others which are much larger, and the whole *eshesh* only furnished three cholera victims. There is no building law and no legal means of demolishing such hovels when built on private ground. The river banks are being jealously guarded from all pollution, and it is hoped that the *octroi* stations will be moved further from the populated part of the town to prevent the collection there of barges bringing cereals and other produce from both Upper and Lower Egypt. This is objected to by the merchants, but as they would be the only people inconvenienced, and the improvement would be of great benefit to the town in general, the Government should not hesitate. The work of the European medical men and the success attending their labours in Alexandria, in Cairo, and in some of the outlying provinces shows that cholera can be safely dealt with in an unclean city full of ignorant Orientals provided that the general water-supply is not contaminated. As in the case of typhoid fever and many other diseases there is still much to learn about cholera epidemics, but the mysteriousness of the disease is gradually disappearing. A few sparks of fire if neglected may smoulder for a long time, and may eventually lead to a huge conflagration, or they may be extinguished at the outset or kept under by intelligent efforts. So with cholera all things are possible, from the stamping out of the first case in a sanitary town to an universal epidemic in an unclean country. The fireman knows that he must strain every nerve to prevent the enemy getting to a powder-magazine, oil-shed, or straw-yard. So every sanitarian should know that his every effort must be expended in obstructing at all costs the unholy alliance of the demon cholera with the water-supply of human beings.

Aug. 24th.

PHILADELPHIA.

(FROM OUR OWN CORRESPONDENT.

Organisation of Opticians.

A NUMBER of prominent opticians recently held a meeting in this city for the purpose of effecting a State Association with the following objects in view. First, the elevation and advancement of the profession and the mutual intercourse and benefit of members. Second, to encourage opticians to perfect themselves in the study of optics and the scientific adaptation of lenses in correcting errors of refraction. Third, to discourage the haphazard and indiscriminate sale of spectacles by irresponsible and ignorant persons. They aim chiefly at the "sidewalk fakirs," who do quite a large business "filling glasses." The movement is regarded with disfavour by the specialists, who do not think the opticians are capable of prescribing glasses, even with more scientific training in optics, as they cannot appreciate the cases from a medical standpoint. Those opticians who are known to refract and prescribe are usually boycotted. Some of them pay the college expenses of one of their clerks in some "short term" medical college. After receiving his degree the young man becomes a "store specialist."

Organisation of Barbers.

The Supreme Lodge of the National Barbers' Association, at a meeting held in Pittsburgh a few days ago, decided to ask for legislation to regulate the standard of admission to the trade. Should it be granted each candidate for tonsorial honours will have to pass a State board examination. It is claimed that under existing conditions the barber is often the cause of disseminating skin diseases and that the prospective Act will protect the health of the public and serve to better the trade.

Sickness and Death Caused by the Hot Weather.

The heat throughout the eastern and middle States during the past ten days has been intense, in some places as high as 108° F. in the shade, and one town reported 112°. Here in Philadelphia 99° has been the maximum, but the humidity has been very great. We have averaged more than twenty deaths a day from sunstroke for a week, and in the past three days over 100 additional cases a day of heat prostration. Many people have been sleeping along the wharves, and others among the lower and lower middle classes have been spending their nights on beds made up on chairs out on the sidewalks. New York city is suffering even more severely, their record being for the twenty-four hours ending noon of Aug. 12th 335 deaths, of which 123 were caused by the heat. The nearest approach to this was in 1892, when 302 death certificates were filed in twenty-four hours, of which 106 were from the heat. In Brooklyn Park Commissioner Woodruff issued an order authorising the police to open the parks and to permit respectable people to sleep there. Many took their beds and availed themselves of the opportunity, but the majority were content to spread themselves upon the grass. In New York the Commissioner of Public Works, General Collis, gave orders that the public baths should be kept open all night while the heat spell lasts.

Medical Aid and Funeral Societies.

A company known as the "Medical Aid and Funeral Supply Company," an "improvement" on the friendly society, has just started operations in this city. Two others with similar objects have been in operation in New York for more than a year. They advertise: "It is a company furnishing doctor, medicine, and a decent burial for 10 cents a week." They will bury in any cemetery desired, and furnish undertaker, casket with six nickel-plated handles, an extra box for same, drapings for the room, hearse, and three carriages. For 15 cents a week they furnish a "lot," and 20 cents a week include gravestones. Anyone over one year and under sixty years of age is eligible. The physicians are paid 25 cents a visit. The company will not pay for obstetrical, venereal, or major surgical cases. The druggist receives 20 cents for each prescription he compounds. No doubt it will injure the industrial insurance companies, and perhaps some of the sub-acute and even chronic dispensary *habitués* may learn to pay, but probably many people comparatively well-to-do will adopt this means of avoiding the payment of "doctors' bills."

Proposed Legislation for Dentists.

The State Dental Society have framed a Bill for presentation to the next legislature, praying for the proper government of the profession in this State. The advisory board, known as the Dental Council of Pennsylvania, shall consist of the Superintendent of Public Instruction, the President of the State Board of Health and Vital Statistics, and the President of the State Dental Society. They will supervise the examinations held by the State Board of Dental Examiners of all applicants for licence to practise dentistry in this State. They have the authority to issue certificates to successful candidates, also to those presenting certificates from State Boards of Dental Examiners or State Boards of Health from other States. The subjects for examination are as follows:—General anatomy and physiology, special dental anatomy, dental histology, dental physiology, chemistry and metallurgy, materia medica, dental pathology and therapeutics, anæsthesia, and principles and practice of dentistry.

Each candidate must also give satisfactory evidence of his ability as a mechanical dentist.

Medical Education in Pennsylvania.

The following is the relative standing of graduates of the various medical colleges recently examined by the State Board of Medical Examiners representing the Medical Society of the State of Pennsylvania:—

Medical colleges from which applicant graduated.	Number examined.	Number failed.	Percentage of failures.	Average grade.
University of Pennsylvania	48	0	0·0	83·70
Jefferson	131	8	6·15	83·51
Medico-Chirurgical	42	3	7·14	82·00
Women's Medical College (Philadelphia)	9	0	0·00	81·66
College of Physicians and Surgeons (Baltimore)	16	1	6·25	79·59
West Pennsylvania Medical College	81	19	23·45	79·33
Baltimore Medical College	14	1	7·14	78·95
Miscellaneous Colleges...	40	9	22·50	75·62
	381	41	10·76	81·42

The highest average obtained was 93·12. The Medico-Chirurgical College really had only two failures, as one of the three was a candidate who failed before the board a year ago and was this year examined. The small number of students from the University of Pennsylvania is due to the extension of the course from three to four years. But for the above, which was a voluntary fourth-year class, they would have had no class to graduate this year. The University of Pennsylvania has had but two candidates to fail since the law went into effect in March, 1894. In May of this year the Board of Trustees of that institution decided to raise the tuition fee to $200 per annum and enforce a more rigid entrance examination, increasing the standard of entrance each year until 1899, when each applicant who does not possess a scientific or baccalaureate degree from some recognised institution will be required to pass the examination in English grammar, reading and composition, history (United States, Greek, and Roman), mathematics, Latin and Greek grammar and prose composition, and French and German grammar and prose composition. Solid geometry and physics may be substituted for French and German. This is a step in the right direction.

Aug. 14th.

Obituary.

JOHN DUNCAN MACDONALD, M.D., C.M. GLASG.

IT is with very deep regret that the death of Dr. John Duncan Macdonald, assistant to the Principal Civil Medical Officer and Inspector-General of Hospitals, Ceylon, will be learned by his friends and professional brethren. The sad event occurred at the Adam's Peak Hotel, Hatton, on July 20th, after a few days' illness. The deceased graduated at the University of Glasgow in 1872, obtaining his degree of M.D. in 1880. In 1876 he went to Ceylon as District Surgeon Haputalé under a private scheme of medical aid to the coffee planters and their labourers. On the Government undertaking the scheme he was appointed in 1883 Assistant Colonial Surgeon in the Civil Medical Department, having the duties of office assistant to the Principal Civil Medical Officer and Professor of Materia Medica and Therapeutics in the Ceylon Medical College. In 1886 he was appointed medical superintendent of the General Hospital and Civil Medical Stores, Colombo, and Professor of Pathology and Medicine. Of the Ceylon Branch of the British Medical Association he was at one time honorary secretary, undertaking the same duties in connexion with the Colonial Medical Library. In 1888 he visited Europe, spending much time in the laboratories and hospitals of Germany, being an able German as well as a French scholar. In 1890 he was sent by the Government of Ceylon to study the theory of tuberculin enunciated by Koch. In 1891 he resumed duties as office assistant, receiving the rank of Colonial Surgeon. For some years he edited the *Ceylon Medical Journal*, enriching its pages with translations from German writers and original contributions, chiefly on ankylostomiasis, which he investigated, the result being the regular treatment of this disease with thymol or the liquid extract of male fern in the hospitals and dispensaries in the colony. He was universally popular with his colleagues and beloved by the students who had the privilege of attending his lectures, which were prepared with great care and were full of the results of earnest study. He intended very shortly to take a long holiday, of which he was sadly in need, having in 1895-96 undertaken the duties of Colonial Surgeon and Superintendent of Vaccination of the Western Province in addition to his own work. He leaves a widow (who left for Scotland three months ago) and two married daughters. A good husband, a kind father, a tender physician, a courteous colleague, and a staunch friend, he passed away at the age of fifty-six years regretted by all, but chiefly by the students (o one of whom has fallen the duty of penning these lines), in whose hearts will ever dwell the memory of one so kind and considerate, causing a loss to the Government of Ceylon and the Civil Medical Department of the Colony which it will be hard to replace. He was attended in his last illness by Dr. A. W. Renny, in consultation with his chief Mr. W. R. Kynsey, C.M.G., who has lost a most valued helper. The funeral took place at Christ Church, Dikoya, on July 21st.

Medical News.

UNIVERSITY OF EDINBURGH.—The following degrees were conferred on Aug. 1st in the Faculty of Medicine:—

Degree of M.D.—Thomas Stewart Adair,‡ M.B., C.M.; Robert Swan Aitchison,* M.B., C.M.; Charles Macdonell Anderson, M.B., C.M.; Edmund Antrobus, M.B., C.M.; John Richardson Armstrong, M.B., C.M.; Frederick Richard Breeks Atkinson, M.B., C.M.; Henry Porter D'Arcy Benson, M.B., C.M.; Thomas Hill Bishop, M.B., C.M.; John Wilson Black,‡ M.B., C.M.; George Lindsay Bonnar, M.B., C.M.; David Haitly Burn, M.B., C.M.; John Ridley Burnett, M.B., C.M.; Thomas John Burton, M.B., C.M.; Ernest Stanley Radford Cadman,‡ M.B., C.M.; John Clark, M.B., C.M.; Herbert Davies Coles,† M.B., C.M.; William Cotton,‡ M.B., C.M.; Carstairs Cumming Douglas,† M.B., C.M.; Edward Charles Edwards,‡ M.B., C.M.; George Elder,† M.B., C.M.; William Elder,* M.B., C.M.; Thomas Fentem,‡ M.B., C.M.; Robert Alexander Fleming,* M.B., C.M.; Alfred Walter George, M.B., C.M.; John Gordon Gordon-Munn,‡ M.B., C.M.; Lachlan Grant,‡ M.B., C.M.; Wm. Gray,‡ M.B., C.M.; William C. Greig, M.B., C.M.; Harry P. Hannay, M.B., C.M.; Sydney W. Haynes, M.B., C.M.; G. H. Hogg, M.B., C.M.; A. G. Horden,‡ M.B., C.M.; A. A. Hudson, M.B., C.M.; Robert Hutchison,† M.B., C.M.; Claude Buchanan Ker,* M.B., C.M.; James Lawson-Williams, M.B., C.M.; Thomas Arthur Leishman,‡ M.B., C.M.; Thomas Malcolm Murray Lyon, M.B., C.M.; Donald Gregor M'Arthur, M.B., C.M.; John M'Clymont,‡ M.B., C.M.; William Bertie Mackay,‡ M.B., C.M.; James Garvie M'Naught on, M.B., C.M.; John Macpherson,* M.B., C.M.; Frederic Rowland Mallett, M.B., C.M.; Thomas Graham Mathews, M.B., C.M.; James Crauford Maxwell,‡ M.B., C.M.; Charles Killick Millard,‡ M.B., C.M.; Thomas Hugh Milroy,* M.B., C.M.; Thomas Howard Morgan, M.B., C.M.; Taraveth Madowen Nair, M.B., C.M.; John Orr,‡ M.B., C.M.; George Chapman Steele Perkins, M.B., C.M.; Samuel Willis Prowse, M.B., C.M.; Benjamin William Quartey-Papafio, M.B., C.M.; Joseph Ernest Rogers, M.B., C.M.; James Corrigall Rossie, M.B., C.M.; Robert Dawson Rudolf,‡ M.B., C.M.; George Calrow Sandford,‡ M.B., C.M.; Herman Schmitz,‡ M.B., C.M.; John Gordon Sharp,‡ M.B., C.M.; Frederick Macpherson Traill Skae,‡ M.B., C.M.; John Prince Stallard, M.B., C.M.; William James Johnstone Stewart,‡ M.B., C.M.; Walter Russell Strapp, M.B., C.M.; Arthur Hope Taylor,‡ M.B., C.M.; David Duncan Tindal,† M.B., C.M.; John Kay Tomory,‡ M.B., C.M.; Arthur John Wallace,‡ M.B., C.M.; David Henry Walsh, M.B., C.M.; James Kenneth Watson, M.B., C.M.; Edward Croit Watts, M.B., C.M.; Alfred John Wheatley, M.B., C.M.; George Wilkinson,† M.B., C.M.; George Robert Wilson,* M.B., C.M.; John Clark Wilson, M.B., C.M.; and William Cheyne Wilson,‡ M.B., C.M.

* Those who have obtained Gold Medals for their theses.
† Deemed worthy of competing for the Theses Gold Medals.
‡ Commended for their theses.

Degrees of M.B. and C.M.—Dugald Nairne Anderson, James Anderson, Eustace Arkwright, John Ballantyne, James Bannerman, Alexander Baxter, John Evans Hadden Bennett, Robert Bennie, Louis François Benjamin Biccard, James Brunton Blaikie, Frederick John Campbell Young Botha, Charles Allan Bowker, Edwin Bramwell, William Henry Brendon, Daniel Brough, George Scott Brown, Henry Grey Brown, Christoffel Albertyn Brugman, Walter James Buchanan, William Buchanan, Thomas Marshall Callender

Archibald Fawns Cameron, James Currie Baxter Carruthers, William Haining Carse, Horace Crakanthorp Colman, Matthew Corry, Cecil Burleigh Crampton, Edward Crarer, James Davidson, Priyanath Deb, Hugh Dewar, Mohan Lal Dhingra, Arthur Dickson, Joseph Dorman, Hugh Douglas, Charles William Eames, John Eason, Alexander Henry Edwards, Lewis Charles Edwards, William John Adams Erskine, Alfred Watkis Roby Fletcher, William Charles Hugham Forster, Jose Manuel De Freitas, Robert Gardner, Alexandra Mary Campbell Geddes, William Graham Crichton Geekie, Mohomed Abdul Ghany, Wilfred Ernest Gibbons, Charles Francis Giddy, David Dryburgh Gold, Thomas Grainger, Lewis Grant, Alan Young Greenwood, Norman Gunn, Robert Mills Hall, Francis Alexander Hardy, Percy James Henderson, Percy Theodore Herring, John Thomas Hewetson, Lionel Watson Hignett, Richard Percy Hill, William Hugh Hill, Walter John Henry Hislop, John Francis Holden, Robert Kenyon Howden, John Arnold Hunter, Donald Henry Hutchinson, Mowbray Jackson, Walter Jagger, Charles Harold Johnson, Thomas Fair Johnston, Henry Irvine Jones, George King, Robert Welland Knox, Carel Hendrik Kruger, Charles Dickson Lander, George Lawrence, James Louden Leadbetter, James Lee, James Fisher Lindsay, Basil Lockhart Livingstone-Learmonth, Thomas Valiant Lockhart-Mure, Ralph Edward Loney, John Robert Lord, Alexander Petrie Low, Alfred Lees Low, James Doig M'Crindle, Stuart M'Donald, Jessie MacLaren Macgregor, George Wishart M'Intosh, George M'Kellar, John Macmillan, Sreenagula Mallannah, James Leslie Marjoribanks, Joseph Mason, Frederick Hallard Merry, Robert Alexander Milne, William Morrison Milne, John Alexander Milroy, Hugh Murray Morton, Owen St. John Moses, William Mowat, John Muir, John George Patrick Murray, Albert John Orchard, William David Osler, James Patton, John Peter Peterson, Cyril Hamilton Phillips, Ernest Edward Porritt, Frederic Porter, James Prentice, William Henry Pritchard, William Lewis Pritchard, Frederic Maurice Purchas, Oswald Raitt, Robert Gow Ralston, John Arthur Rees, Joseph Henry Reynolds, John Richards, William Thomas Ritchie, William Hunter Robb, Norman Hamilton Ross, David Richard Rowlands, John Hilary Seon, John Thomson Shirlaw, John William Simpson, William Alfred Skinner, George Smith Small, Francis Osmond de Souza, John Stevenson, John Stoddart, Alexander Corsar Sturrock, Henry Young Taylor, Herbert Francis Lechmere Taylor, Daniel Gilbert Miller Teague, Henry Turakina Joynt Thacker, Alfred George Patrick Thomson, Richard Hensleigh Walter, Henry George Waugh, Gilbert Aitken Welsh, James Hunter White, George Francis Whyte, Percy William Wilkinson, Frank Mayes Willcox, Thomas Forcer Williams, Thomas Alfred Williams, Edward Ferris Wills, John Wilson, William Wilson Wood, and William Alexander Young.

UNIVERSITY OF ABERDEEN.—The following degrees were conferred on July 27th in the Faculty of Medicine:—

Degree of M.D.—Henry Martyn Barker, M.B., C.M.; Joseph Marshall Barnes, M.B., C.M.; Frederick Booth, M.B., C.M.; George Burnett Currie, M.B., C.M.; William James McCulloch Ettles, M.B., C.M.; Ernest Colwell Maguire, M.B., C.M.; Edward Longueville Mansel, M.B., C.M.; Arthur Edward Patterson, M.B., C.M.; and William Russell, M.B., C.M.

The Thesis of William J. M. Ettles was considered worthy of "Highest Honours," and that of William Russell was awarded "Commendation."

Degrees of C.M. and M.D.—Charles E. Piers, M.B.

Degrees of M.B. and C.M.—William Brodie Brown, Richard Ambrose Coles, Middleton Connon, William Francis Cornwall, Alexander Cruickshank, George Mellis Duncan, Henry Forbes, Alec Forsyth, Reginald Douglas Gawn, John Sangster Greig, Clarence Haslewood, Leonard Guscotte Haydon, Patrick Jobson Henderson, John Innes, Peter Walker Ironside, James Melville Keith, John G. McWillie, John Geddes Pirie, and Alexander Mitchell Watt.

William Hunter has passed the final examination, but will not graduate until he has attained the necessary age.

Degrees of M.B. and Ch.B.—Robert George Henderson.

Diploma in Public Health.—George B. Currie, M.A., M.B., C.M. Aberd.; James Fletcher, M.B., C.M. Aberd.; and Robert J. McKeown, M.B., B.Ch. R.U.I.

The following candidates have passed the first portion of the First Professional Examination:—

George W. Allan, Alexander Bisset, William F. Bisset, William Brander, William Cameron, Allan J. Craigen, James G. Davidson, James B. Elder, S. D. Fairweather, Charles Forbes, William Fraser, Henry F. L. Grant, Alfred A. Hingston, George A. Johnstone, Dudley M. Mackenzie, Norman W. Mackworth, A. L. Napier McLean, William G. Maydon, John A. Mearns, William D. G. Mulloy, Julius E. Perera, Alexander M. Ross, Henry W. Smith, Peter M. Turnbull, William Turner, James Wilson, and Douglas A. Wood.

The following candidates have completed the First Professional Examination:—

William J. I. Bruce, William J. Caie, John Catto, James W. Clyne, Alexander H. Cran, Arthur Davidson, Arthur R. Davidson, H. Allan Davidson, Norman Davidson, George G. Farquhar, John Forbes, Henry Fraser, John M. Fraser, James A. S. Grant, Ralph H. Gray, George T. Gunn, John Halley, Edmund W. Hannah, Ernest S. Henriques, John Low, David M. Macdonald, James Macfarlane, James H. Mackay, John McKenzie, John McPherson, Henry Peterkin, Robert W. Reid, John Richardson, Alexander M. Rose, Frederick Sellar, James A. Simpson, Robert A. Slessor, Harry E. Smith, James A. Stephen, Arthur L. Sutherland, Herbert B. Tawse, James Taylor, James A. Tolmie, Robert Trotter, Arthur Westerman, John Wilson, and Trevor H. Worgan.

The following candidates have completed the Second Professional Examination:—

Henry Adams, James S. Chapman, Robert J. Cheves, William S. Clark, Leonard Cotterill, James M. Cowie, A. B. Cruickshank, Fred W. Ellis, John E. Esslemont, Alexander M. Fiddes, Thomas Fraser, William K. Glover, Alfred W. Hare, William E. Henderson, John Irwin, Forbes Kinnear, Henry J. McGrigor, James McKay, J. J. R. Macleod, Herbert F. Mitchell, David R. Moir, George Mowat, George F. Petrie, John M. Petrie, Frederick Philip, George J. Pirie, Charles E. Preston, T. F. Ritchie, Maurice G. Robertson, H. P. Sheppard, N. J. Sinclair, C. C. Slorach, Joseph A. Thomson, Alexander Urquhart, Alexander B. Walker, Edward B. Wilson, and A. W. C. Young.

The following candidate has passed the first portion of the Second Professional Examination:—

R. F. Hutchison.

The following candidates have completed the Third Professional Examination:—

Robert Bruce, Alexander Chalmers, William H. Clark, Adam G. Fraser, William S. Hall, T. W. Lumsden, Andrew A. Robb, John Roger, William Tuach, and George A. Turner.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates passed in the subjects indicated in August:—

Surgery.—G. Burton Brown, Guy's Hospital; A. N. Clemenger, St. George's Hospital; O. W. Gange, University College; G. R. B. Gaudoin, Madras; H. A. J. Gidney, Calcutta; H. R. Hurry, Melbourne; J. M. Martin, Cambridge and University College; E. A. Quirke, Birmingham; J. K. H. Smyth, St. Mary's Hospital; and P. R. Wallis, University College.

Medicine, Forensic Medicine, and Midwifery.—W. P. Bean, Leeds; H. A. Belbin, Sheffield and University College; J. O. Garland, Guy's Hospital; C. J. Macdonald, St. Bartholomew's Hospital; and J. M. Martin, Cambridge and University College.

Medicine and Forensic Medicine.—F. M. Cooper (Intermediate), Royal Free Hospital; and P. E. Saunders, Cambridge and St. Thomas's Hospital.

Medicine and Midwifery.—V. A. Settle, Middlesex Hospital.

Medicine.—R. N. de Beauvais, Aberdeen and St. Mary's Hospital; F. R. M. Heggs, Birmingham; H. Herbert, London; W. Latham, Manchester; J. Ponsonby, Guy's Hospital; and C. H. Thomas, London.

Forensic Medicine and Midwifery.—G. Burton Brown, Guy's Hospital.

Forensic Medicine.—T. B. Bokenham, St. Bartholomew's Hospital; G. R. B. Gaudoin, Madras; W. Lloyd, London; and W. A. Pierce, Liverpool.

Midwifery.—P. C. Higgins, Guy's Hospital.

To Messrs. Bean, Bokenham, Clemenger, De Beauvais, Gange, Higgins, Hurry, Martin, Saunders, Settle, Thomas, and Wallis, was granted the diploma of the society, enabling them to practise medicine, surgery, and midwifery.

FOREIGN UNIVERSITY INTELLIGENCE.—*Breslau:* Dr. Neisser, who had been invited to Berlin to take charge of the Clinic for Venereal Diseases in the Charité in succession to Professor Lewin, has finally decided to remain in Breslau.—*Gratz:* Dr. E. Finotti has been recognised as *privat-docent* in Surgery.—*Cracow:* Dr. A. Baurowicz has been recognised as *privat-docent* in Laryngology, and Dr. Ladislaus Reiss as *privat-docent* in Dermatology.—*Leipzig:* Dr. B. Kroenig has been recognised as *privat-docent* in Midwifery and Gynæcology.—*Milan:* Dr. Francesco Denti has been appointed Director of the Ophthalmic Clinic.—*Tomsk:* This university, which has now been in existence about nine years and consists at present of a single faculty—that of Medicine—had, according to a recently issued report, 413 students, of whom only three were of native parentage, the majority being sons of priests. In the year 1895, 64 out of 117 who entered five years previously completed their course, 54 of whom received their diploma as *Vrach* or medical practitioner. Up to the present time the University has educated 151 medical practitioners and is evidently partly supplying a very great want, as in such a sparsely populated country as Siberia medical men are necessarily very few and far between.

THE NEW WATER SUPPLY AT WORTHING.—The new water supply at Worthing, drawn from a well at the foot of, and close to, the South Downs, is nearly ready to be taken over and used in the mains already laid. The works were, of course, commenced in 1894, after the severe typhoid fever epidemic in the town, and many delays have occurred. However, an excellent temporary supply has in the meantime been available from a site about two miles west of the new works. The latter, about two miles north of the town, and the pumping station and reservoir, cover about three and a half acres, the reservoir standing further northward and on the chalk downs itself, no fewer than 12,000 loads having been excavated. The capacity of the tank is about two million gallons, and the present daily consumption in the town is not above 750,000 gallons. The dimensions of the tank are 150 ft. diameter at the surface and 23 ft. depth. The walls are built of layers of concrete, stock bricks, asphalte, and Tunbridge Wells hard bricks. The engines, to

be used alternately, are each of about 87 horse-power and are "horizontal compound differential condensing engines," each working a pair of steel pumps and a pair of double-action forcing-pumps. Each engine and set of pumps is capable of raising a thousand gallons of water a minute to a height of 215 ft. The greatest care has been taken in the well to avoid contamination. The shaft of 119 ft. is cased with flanged iron shields in segments, the joints being made of pitch-pine vertically and of yarn and Russian tallow horizontally. Headings are driven to increase the supply 150 ft. in length, 6 ft. high, and 4 ft. wide.

THE CHEMISTS' EXHIBITION.—The second annual exhibition was opened on Aug. 24th in the National Skating Palace, Argyll-street, Regent-street. There are some 130 stalls, and among the leading exhibitors were noticed the names of Messrs. J. Moss and Co., Galen Works, Wilson-street, New-cross-road, S.E.; Mr. John Milne, Ladywell, S.E.; Messrs. A. de St. Dalmas and Co., Leicester; Messrs. Oppenheimer, Son, and Co., Worship-street; Messrs. Maw, Son, and Thompson, Aldersgate-street; Messrs. Burroughs, Wellcome, and Co., Snow-hill; Mossrs. Parke, Davis, and Co., North Audley-street; and Messrs. Reynolds and Branson of Leeds. The exhibition closed to-day (Friday).

THE MIDDLESEX HOSPITAL.—A meeting of the Quarterly Court of Governors was held at the Middlesex Hospital on Aug. 27th, to consider the scheme for the amalgamation of the Hospital and Medical School. Briefly stated, the scheme provides for the taking over by the hospital of all the property of the school, together with its existing liabilities, and the consequent remission of the debt now due from the school to the hospital. Henceforth the hospital will receive the gross income of the school, and after payment of necessary charges will provide, according to the profits obtained, a fixed annual sum for the remuneration of the teaching staff. These financial arrangements are subject to revision, if necessary, at the expiration of three years. Another prominent feature of the sheme is the constitution of a new body, the Council of the Medical School, to be composed of the chairman of the Weekly Board, representatives of the governors nominated by the Weekly Board, the honorary medical officers of the hospital, and the lecturers of the school. The Council will, under the supervision of the board, control all matters relating to the finance and management of the school. The school committee will, as at present, regulate the teaching arrangements and discipline of the school, but will exercise its powers in subordination to the Council. On the proposal of Sir Ralph Thompson, seconded by Dr. Coupland, this scheme was adopted.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Richard Macartney, L.R.C.P., L.R.C.S. Edin., the honorary secretary of the Cinderford (Gloucestershire) Football Club, was presented on Aug. 11th with a handsome silver tea and coffee service in recognition of his services on behalf of the club.—At Wotton-under-Edge, Gloucestershire, on Aug. 12th, the vicar (Rev. H. Sewell, M.A.) presented Mr. James G. Boyce, L.R.C.P., L.R.C.S. Irel., with a handsome carriage timepiece on behalf of the ladies attending the first-aid lectures of the St. John Ambulance Association as an acknowledgment of his services as lecturer.—Dr. Hugh Rhodes of Highfield, Sheffield, has been the recipient, from the members of the Sheffield Midland Passenger Station Ambulance Corps, of a case of meat and game carvers, as a token of appreciation of his services to the corps.—Dr. C. R. Davidson of Nottingham has been presented with a walking stick, suitably inscribed, by the men employed in the Engineers' Department, Nottingham district, in connexion with the Ambulance Work on the Midland Railway.—On the 19th instant, at the Town Hall, Tunbridge Wells, Dr. H. A. Perkins was the recipient from the St. John Ambulance Society of a silk umbrella with a gold band, suitably inscribed, as an acknowledgment of services rendered by a course of lectures on Ambulance First Aid.—Dr. Arthur B. Blackie has been presented with a carriage clock by the members of the B Division of the Shropshire Police, as a token of appreciation as teacher of their ambulance class.—Mr. W. H. Square, L.R.C.P., L.R.C.S. Edin., who is surgeon to the Sunderland No. 3 Branch of the Boilermakers' and Iron and Steel Shipbuilders' Society, has received from the members of the branch, as a mark of esteem, a silver-mounted oak inkstand, and Mr. Willens, his secretary, has been the recipient of a silver-mounted pipe and a silver match-box from the same society.—Dr. James R. Kaye, lately medical officer of health of the County Borough of Sunderland, but recently appointed medical officer of health of the West Riding County Council, has been presented, on the occasion of his leaving Huddersfield, by his brother officials in the corporation of that borough with a case of fish and fruit knives and forks, a silver shield on the case bearing the following inscription: "To Dr. Jas. R. Kaye, M.O.H., from his brother officers, on his appointment as M.O. of the W.R.C.C. Town Hall, Huddersfield, July, 1896."—Mr. Julius Cæsar, F.R.C.S. Irel., L.R.C.P., L.R.S.C. Edin., of Minster, Sheppy, has received the present of a handsome pair of bronze ornaments as a mark of esteem and appreciation for his kindness in going to Queenborough to gratuitously instruct and conduct the classes attending the St. John Ambulance lectures given under the auspices of the Queenborough Young Men's and Young Women's Christian Associations.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BALLANCE, H. A., M.D., B.S. Lond., F.R.C.S. Eng., has been appointed House Surgeon to the Norfolk and Norwich Hospital.

BEAN, HAROLD KNOWLES, B.Sc. Edin., M.D. Melb., has been appointed Government Vaccinator for Wallsend and Plattsburg, New South Wales.

BERRY, WM., L.S.A., has been re-appointed Medical Officer by the Holmfirth Urban District Council.

BRANSON, G. A., L.R.C.P. Edin., M.R.C.S. Eng., has been appointed Health Officer for Richmond City, Victoria, Australia.

BRIGHT, R. S., M.R.C.S. Eng., has been appointed President of the Tasmanian Court of Medical Examiners, vice C. Smart, deceased.

BULL, S. A., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Public Vaccinator for Coromandel, New Zealand.

BURMAN, F. J., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Wath-upon-Dearne Urban Sanitary District.

CARTWRIGHT, JOHN A. T., M.R.C.S., L.S.A., L.M., has been appointed Medical Officer of Health to the Wigmore Rural District Council.

CLOTHIER, H., M.D. Lond., L.R.C.P., M.R.C.S., has been re-appointed Medical Officer of Health by the Hornsey District Council.

CROSBY, A. H. P., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to the Christchurch Hospital, New Zealand.

DE CLIVE-LOWE, GEO. THOS. HUMPHREY, L.R.C.P., L.R.C.S., L.F.P. & S. Edin. and Glasg., has been appointed Government Medical Officer to the District of Raweni, Hokeanga, Auckland, New Zealand.

EGLINTON, G. W., L.R.C.P. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Street District Council.

GERRARD, MR., has been re-appointed Consulting Analyst by the Sunbury Urban District Council.

GLOVER, J. H., M.B., C.M. Edin., has been appointed Medical Officer for the Bottesford Sanitary District of the Belvoir Out-relief Union.

HARDCASTLE, N., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the Benwell Urban District Council.

HARRISON, J. A., L.R.C.P., has been appointed Health Officer for the East and Central Ridings, Numurkah Shire, Victoria, Australia.

HARRISON, S. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the North Walsham Sanitary District of the Smallburgh Union.

HARSE, W. T., M.B. Melb., has been appointed Health Officer for Huntly Shire, Victoria, Australia.

HIGGENS, JOHN, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Health Officer for Fern Tree Gully Shire, Victoria, Australia.

HILLYAR, G. H. S., L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed a District Medical Officer for the Williton Union, vice T. C. Lawson, resigned.

HORNIBROOK, W. H., L.R.C.P., L.R.C.S. Irel., has been appointed a Public Vaccinator for Mount Cook, New Zealand.

HOYLE, J. C., M.B., Ch.M. Durh., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer of Health for Rangoon, Burmah.

HUGHSTON, R. W., M.B., Ch.B. Melb., has been appointed Health Officer for Port Fairy Borough, Victoria, Australia.

HULL, W., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed a member of the Licensing Court for Cootamundra, New South Wales.

KENNY, F. H., M.R.C.S., L.S.A. Eng., has been appointed a Public Vaccinator in South Australia.

LAWSON, DAVID, M.A. St. And., L.R.C.S. Edin., L.R.C.P. Edin., L.F.P.S. Glasg., M.B., C.M. Edin., has been appointed Medical Officer to Banwell District of Uxbridge Union.

LAWSON, G. L. L., L.R.C.P. Edin., M.R.C.S. Eng., D.P.H. Edin., has been appointed Health Officer at Yalgoo, Western Australia.

LEWERS, R. W., M.B., Ch.B. Melb., has been appointed a Public Vaccinator for the District of Hastings, New Zealand.

LINDSAY, J. A., M.D., M.R.C.P., has been re-appointed Physician to the Royal Hospital, Belfast.

LINNEY, W. W., L.R.C.P. Lond., M.R.C.S., has been appointed a Public Vaccinator for the District of Hastings, New Zealand.

MACKNIGHT, C. M., M.B., Ch.B. Melb., M.R.C.S. Eng., has been appointed a Member of the Licensing Court for Urana, New South Wales.

MARTIN, A. J., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Essington Sanitary District of the Cannock Union.

MIDDLEMIST, R. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Workhouse of the Stamford Union.

MORTON, GAVIN, M.B. Syd., has been appointed Senior Medical Officer at the Parramatta Hospital for the Insane, New South Wales.

SEMPLE, W. H., M.D. Edin., L.R.C.S. Edin., has been appointed Health Officer for Kilmore Shire, Victoria, Australia.

SHIRREFF, W. H., M.B., Ch.M. Aberd., L.S.A. Lond., has been appointed Health Officer for Belfast Shire, Victoria, Australia.

SMITH, ROBERT, L.R.C.P., L.R.C.S. Edin., F.R.C.S., has been appointed a Public Vaccinator for the District of Ashurst, New Zealand.

SOUTER, C. H., M.B., Ch.M. Aberd., has been appointed Medical Officer to the Destitute Poor and Aborigines within the District of Dalkey, South Australia.

SOUTER, J. F., M.B., Ch.M. Aberd., has been appointed a Public Vaccinator in South Australia.

SPRINGTHORPE, J. W., M.D., Ch.B. Melb., M.R.C.P. Lond., has been appointed a Member of the Dental Board of Victoria, Australia.

THOMPSON, J. ASHBURTON, M.D. Brux., D.P.H., has been appointed Chief Medical Officer to the Government of New South Wales and President of the Board of Health, vice F. P. Anderson Stuart, resigned.

THOMSON, M. B., M.B., Ch.M. Edin., has been appointed a Public Vaccinator at Dandenong, Victoria, Australia.

WARD, JOHN, M.D. St. And., M.R.C.S. Eng., has been appointed a Public Vaccinator for Bluch's, New Zealand.

WHEELER, T. K., M.D., has been re-appointed Surgeon to the Royal Hospital, Belfast.

WRIGHT, J. C., M.B., Ch.M. Glasg., has been appointed Health Officer for Deakin Shire, Victoria, Australia.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £70, with board, residence, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester-street, London.—House Surgeon for six months. Board, lodging, lights, and fuel provided.

BOOTLE BOROUGH HOSPITAL, Derby-road, Bootle.—Senior House Surgeon. Salary £80 per annum, with board, washing, lodging, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

CONVALESCENT HOSPITAL AND SEA BATHING INFIRMARY, Southport.—Resident Medical Officer, unmarried. Salary to commence £150 per annum, with board, lodging, and washing.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Clinical Assistant for six months. An honorarium of £10, on certain conditions, given, and board, residence, and washing provided.

ECCLES AND PATRICROFT HOSPITAL.—Resident House Surgeon. Salary £80. Applications to Dr. C. L. Sérra, The Limes, Eccles.

ESSEX AND COLCHESTER HOSPITAL, Colchester.—House Surgeon. Salary £100 per annum, with board and lodging in the hospital.

GENERAL INFIRMARY AND DISPENSARY, Doncaster.—In-door Dispenser and Assistant to House Surgeon. Board, lodging, and washing provided.

JERSEY GENERAL DISPENSARY AND INFIRMARY, Aquila-road, St. Heliers, Jersey.—Resident Medical Officer, unmarried. Salary £120, with furnished rooms and attendance.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer, for six months. Board, washing, and residence in the hospital provided.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury, Manchester.—Junior Resident Medical Officer for one year. Salary £80 per annum, with board and lodging.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the Fountain Fever Hospital, Lower Tooting, S.W., unmarried. Salary £160 the first year, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance, and washing. Applications to the Clerk to the Board, Norfolk House, Norfolk-street, Strand, W.C.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician and Assistant House Surgeon. All tenable for six months. House Physician and House Surgeon will each receive a salary at the rate of £40 a year. The Assistant House Physician and Assistant House Surgeon will each receive a salary at the rate of £20 a year.

ROYAL FREE HOSPITAL, Grays'-inn-road, London, W.C.—Two House Physicians, for six months. Board, &c., provided.

SOMERSET AND BATH LUNATIC ASYLUMS, WESTERN JOINT ASYLUM, Cotford, near Taunton.—Medical Superintendent. Salary on commencing duties £450 per annum until the asylum is opened, which is approaching completion, after which date the following extras will be allowed—i.e., partly furnished house, with coal, light, washing, milk, and garden produce. Applications to the Clerk to the Visiting Committee, Somerset and Bath Asylum, Wells, Somerset.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon, for six months. Honorarium at the rate of £24 per annum, with residence, board, and washing.

TOWER HAMLETS DISPENSARY, Stepney, E.—Resident Medical Officer. Salary £120 per annum, furnished rooms, coals, gas, and attendance. Applications to Dr. Donkin, 108, Harley-street, London, W.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea, S.W.—House Physician for twelve months. Honorarium £50 per annum, with board and lodging in the hospital.

WARNEFORD ASYLUM, Oxford.—Locum Tenens for the Assistant Medical Officer, for a month from about Sept. 15th. Terms £2 2s. a week, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

ADAMS.—On Aug. 25th, at 180, Aldersgate-street, E.C., the wife of John Adams, F.R.C.S., of a son.

CRAWFORD.—On Aug. 16th, at Mount-pleasant, Liverpool, the wife of W. S. Crawford, F.R.C.S. Edin., of a son.

DONALDSON.—On Aug. 22nd, at The Elms, Harlington, Hounslow, the wife of T. Campbell Donaldson, M.D., of a son.

GOODALL.—On Aug. 19th, at Homerton, the wife of E. W. Goodall, M.D. Lond., of a son.

HORDER.—On Aug. 23rd, at The Oaks, Sunderland, the wife of E. G. Horder, F.R.C.S., of a son.

MOSELEY.—On Aug. 23rd, at Northgate-street, Ipswich, the wife of C. K. Moseley, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. Lond., of a son.

PIDCOCK.—On Aug. 23rd, at Fitzjohn's-avenue, Hampstead, the wife of George Douglas Pidcock, M.D., M.R.C.P., of a daughter, stillborn.

SANSOM.—On Aug. 20th, at Swanage, the wife of C. Lane Sansom, M.D., F.R.C.S., of Grosvenor-gardens, S.W., of a son.

SHARMAN.—On Aug. 19th, at Rickmansworth, Hertfordshire, the wife of Mark Sharman, M.B., M.S., M.R.C.S., D.P.H., of a son.

STRAIN.—On Aug. 20th, at São Paulo, Brazil, the wife of William Loudon Strain, M.B., of a son.

TENNYSON-SMITH.—On Aug. 17th, at The Birches, Orpington, Kent, the wife of A. Tennyson-Smith, M.B. Aberd., of a son.

MARRIAGES.

CARDEW—ELGEE.—On Aug. 20th, at St. James's Church, Dover, George Schuyler Cardew, Surgeon-Captain A.M.S., son of the late Dr. Cardew, Inspector-General of Hospitals, Bengal Army, of Bath, to Ethel Marion, second daughter of the late Major-General Charles Elgee, 23rd Royal Welsh Fusiliers.

FRASER—MORRIS.—On Aug. 24th, at the Parish Church, Sarn, Montgomeryshire, by Rev. D. D. Peirce, M.A., assisted by Rev. R. Gibbings, D.D., Forbes Fraser of Tarporley, Cheshire (son of the late Henry Fraser of Arbroath, N.B.), to Mary, only daughter of Edward Morris of Sarn.

GRAY—SCARLETT.—At the Roxburghe Hotel, Edinburgh, on Aug. 26th, by the Rev. Alexander Adamson, B.D., Dundee, the Rev. Thomas Crerar, M.A., Leith, and the Rev. James Park, M.A., Leith, James Allan Gray, M.A., M.D., F.R.C.P. Edin., Leith, to (Daisy) Janet Scarlett, only surviving daughter of the late James Stocks, Letham, by Inverkeithing, Fifeshire. At home 107, Ferry-road, on Oct. 7th, 8th, and 9th. No cards.

JESSOP—CARDWELL.—On Aug. 26th, at the Parish Church, Gigglesswick, by the Rev. E. Spencer Gough, rector of Barningham, assisted by the Rev. A. Crofton, vicar of Giggleswick, Thomas Richard Jessop, F.R.C.S., J.P., of Leeds, to Eliza, widow of the late Walter Cardwell.

LEWIS JONES—VON PLATEN HALLERMUND.—On Aug. 18th, at Buenos Ayres, Henry Lewis Jones, M.D., F.R.C.P., of 9, Upper Wimpole-street, Cavendish-square, to Ctsse. Marie Olivie, eldest daughter of the late Cte. Jean Henri Platen von Hallermund, of Stockholm. (By cable.)

DEATHS.

DAVIES.—On Aug. 19th, at St. Quintin-avenue, North Kensington, Dr. Gomer Davies, late of Pembridge-villas, aged 50.

WILLIAMS.—On Aug. 23rd, at Guy's Hospital, after a short illness Arthur Henry Williams, M.A., M.B., B.C. Camb., of 54, London-road, St. Leonards-on-Sea, aged 34.

IN MEMORIAM.

WAKLEY.—On Aug. 30th, 1886, at Heathlands-park, Longcross, Chertsey, Surrey, James Goodchild Wakley, M.D., for twenty-five years Editor of THE LANCET, youngest son of the late Thomas Wakley, M.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 27th, 1896.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp. Shade	Min. Temp	Rainfall	Remarks at 8.30 A.M.
Aug. 21	29·86	S.W.	61	59	114°	70	56	...	Cloudy
,, 22	30·06	N.	60	57	112	71	53	0·21	Bright
,, 23	30·19	S.W.	64	62	107	76	60	..	Cloudy
,, 24	30·08	S.W.	64	63	92	70	62	0·06	Raining
,, 25	29·82	W.	61	59	112	69	59	0·25	Cloudy
,, 26	29·63	W.	55	52	110	65	51	0·11	Cloudy
,, 27	29·86	N.E.	54	52	103	63	48	...	Cloudy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index for the first half-yearly volume for 1896 was given in the issue of June 27th. The practice of supplying loose copies has been discontinued, the Index having been placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1896 are now ready. Bound in cloth, gilt lettered, price 18*s*.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., or post free 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

NORMAL SALINE SOLUTION IN SURGERY.

THE Chicago *Railway Surgeon* states that in the St. Louis Hospital of the Missouri Pacific Railway all wounds are treated by saline solution and cinnamon-impregnated gauze bandages, iodoform and carbolic acid being never used now; corrosive sublimate solution (1 in 1000) is employed for cleansing the skin before operation but not for dressings. After an amputation three layers of aseptic gauze steeped in hot normal saline solution are applied to the parts; a gelatinous cinnamon gauze bandage comes next, another layer of salted gauze above this, and cinnamon gauze above this completes the dressing. The surgeons consider that the results are more satisfactory than when the ordinary antiseptic dressings were in use. For dressing sluggish granulating surfaces the addition of a drachm of sugar to each pint of the normal saline solution is held to be an improvement, as it hastens the healing process by using the root sheaths of hair as grafts.

"THE PRESENT SYSTEM OF MEDICAL EXAMINATIONS."

To the Editors of THE LANCET.

SIRS,—I trust that ere this some abler pen than mine has replied to Mr. T. Pridgin Teale's doctrines on the above subject. Mr. Teale would apparently relegate the ordinary practitioner to the position of the "apothecary" of the last century. He should not in his Final Examination, in Mr. Teale's opinion, be expected to have any knowledge of "the complications of middle ear disease and their treatment," nor should he be able to describe "the operation for vaginal extirpation of the uterus." Why not? The average medical practitioner does not necessarily spend all his time treating minor ailments. Again, why should a student not study biology, materia medica, pharmacy, hygiene, chemistry, and forensic medicine, and if study, why should his knowledge not be tested by a public examination?

No doubt many minor details, such as the treatment of trivial ailments, can only be picked up in private practice, but these are readily acquired, and none the less readily because a man has had a good preliminary training in scientific subjects, and the newly qualified man of to-day, with a knowledge of the use of the stethoscope, ophthalmoscope, and laryngoscope, even though he should have been plucked a couple of times, stands on a higher plane than his prototype of thirty years back who was never plucked. Yours faithfully,

A. J. H. SAW, M.D., B.C. Camb.

Perth, West Australia, July 10th, 1896.

Mr. W. Greer.—We regret that we are unable to be of any assistance; the condition is unknown to us. Our correspondent must, we think, have retained the word wrongly in his memory.

WANTED, A DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly give me a diagnosis with treatment for the following symptoms?—A man aged between fifty and sixty years has been suffering for many years past from violent pains in the legs, ankles, and feet. They come on at frequent but not regular intervals, and are so severe that should he be out he almost loses the power of walking. They come on quite suddenly and never extend higher than the knee, but below the knee they may be in any part. The pain generally proceeds from a circumscribed spot which becomes red, the veins being congested and is very tender; it may then shoot somewhere else and the skin again becomes white, while the new part attacked gets red. The attack lasts for two or three days and then passes off and he is quite free until the next attack. He tells me that he always knows when it is coming on by his getting a great deal of flatulence, and that this flatulence lasts during the attack and goes off with it. He attributes his trouble to having to inspect several of the cold chambers at the docks some years ago. In every other respect he is a healthy man, temperate, and energetic. I have treated the pains as rheumatic and neuralgic, but the remedies ordinarily used in these complaints do not seem to affect them; he has also been treated for gout. The only medicine, he says, which seems to do him any good at all is a rhubarb mixture, while he thinks that a glass of hot whisky and water eases the pain somewhat. I can find no nerve trouble. I should be much obliged to anyone who could suggest some cause for his complaint and a remedy for it. I am, Sirs, yours truly,

Aug. 24th, 1896. W.

C. P. is advised to consult his medical attendant. The word will be found in any large dictionary. The rest of his letter it is not within our province to answer, but if it were the information supplied is too vague to enable us to do so.

ORIENTAL CARELESSNESS.

THE following extract from Dr. Warnock's report on the Cairo Lunatic Asylum shows incidentally, but with great clearness, that oriental apathy and fatalism have not yet been entirely eradicated from Egypt under the influence of English foresight and energy. "A barrier in front of the hospital along the railway line is much needed; incessant precautions have to be observed to prevent accidents in the present dangerous state of affairs. It is hoped that the railway administration will fence off the railway from the road." That a railway track should run alongside a road without a wall or fence between is nothing short of tempting Providence, and yet we believe that this is the rule in Egypt and not the exception. It is fortunate that Egyptian lunatics should be so exceptionally free from suicidal impulse.

Veritas is advised to consult the abstract of the Acts of Parliament in the Medical Directory, pp. 24, 25.

THE COLOURS OF ST. ANDREWS UNIVERSITY.

To the Editors of THE LANCET.

SIRS,—Can any of your St. Andrews readers tell me what are the club colours of that university? I am, Sirs, yours faithfully,

Aug. 24th, 1896. J. G.

Severn.—Such a case as is described should be treated in a private hospital. If some such measure is not taken the issue will probably be lamentable.

"DOES ILLNESS HAVE ANY BENEFICIAL EFFECT ON ITS SUBJECT?"

To the Editors of THE LANCET.

SIRS,—As supporting the theory of Surgeon-Captain Holt on this matter I should like to put on record a case personally known to me. It was that of a man who, having contracted syphilis and with the secondary eruption well pronounced and characteristic, became the subject of confluent small-pox as well. He recovered from both perfectly, and since that time, now over a year ago, he has never had the slightest return of syphilis nor has he taken any specific remedy. I have not been able to find any similar case mentioned in any book of reference within my reach here, which is my excuse for troubling you.

I am, Sirs, yours faithfully,

M. J. KEHOE, L.R.C.S. Irel., &c.

Rosario, Argentine Republic, July 28th, 1896.

Mr. Gustav Roberts.—We cannot prescribe for our correspondent. No such drug is "a good and safe cure," and no such drug should be taken save under proper medical advice. The manufacture of the salt is described in most manuals of chemistry, but, again, unless our correspondent is a practical chemist (which he can hardly be) he is not advised to try to make it.

CHELIDONIUM MAJUS IN CANCER.

DR. DENISKO, of the hospital at Briansk, has, it is alleged, obtained some remarkable results in the treatment of carcinomatous tumours by means of a preparation of great celandine (chelidonium majus). He prescribes from twenty-three to seventy-five grains of the extract, to be taken daily in water or peppermint water, and, in addition, injects into the substance of the tumour near its circumference a mixture consisting of equal parts of the extract, water, and glycerine. At each sitting fifteen drops are injected altogether in several insertions. Moreover, the surface of the tumour when ulceration has commenced is painted twice daily with a mixture of one or two parts of the extract and one of glycerine. The patients usually bear the internal administration of the drug well, and the outward applications cause but very temporary smarting. The injections, however, in addition to local smarting, cause a sensation of languor, rigors, and some pyrexia, these phenomena commencing about a quarter or half an hour after the injection. They disappear entirely before the next day. Caution is, however, necessary, and the doses have to be suited to the idiosyncrasies of the patient. In a very few days the sallow discolouration constantly seen in the skin of cancer patients disappears and the tumour becomes softer. After four or five days small fistulæ begin to show themselves where the needle has been inserted, and around these the tumour gradually breaks down. In from fifteen to twenty-five days there is a complete zone or line of demarkation between the healthy and the cancerous tissue, the tumour decreases to half its former size, and any neighbouring glands that may have been affected return to their normal condition.—It should be clearly understood that the results alleged above are those claimed by Dr. Denisko to ensue on the treatment. We wish this to be made absolutely clear because in the case of a disease which has hitherto proved to be so intractable to treatment by drugs as has cancer we think it is wicked to raise false hopes in the breasts of sufferers and their friends.

J. B. P. has wandered from the subject. The theme of the correspondence in question is not the misdeeds of the General Medical Council, but the justice or injustice of certain criticisms of that body.

SUPPRESSIO VERI?

To the Editors of THE LANCET.

SIRS,—May I ask what I am to consider are the qualifications of practitioners who sign certificates as follows—Mr. A., who signs F.R.C.S., L.R.C.P. Irel.; and Mr. B, who signs M.B, M.R.C.P. Lond.? Am I not justified in thinking that Mr. A. is a Fellow of the Royal College of Surgeons of England? But he is not this; he is a Fellow of the Royal College of Surgeons in Ireland. Also, am I not justified in thinking that Mr. B. is an M.B. of London? But he is not this; his M.B. comes from Glasgow. In each of these cases there is not only a "suppressio veri," but also a "suggestio falsi." This is my opinion. Do others think as I do?

I am, Sirs, yours faithfully,

Aug. 24th, 1896. M.D.

*** The punctuation in our opinion clearly indicates that Mr. A. properly describes himself as F.R.C.S. Irel., the latter abbreviation applying to both qualifications. "M.B., M.R.C.P. Lond." would similarly certainly seem to indicate that Mr. B. had obtained both qualifications from London, which according to our correspondent is not the case. We think Mr. B. would do well to indicate the source of both his qualifications, since as given above they obviously may lead to a false inference. It is the duty of all practitioners to take care not to mislead their professional brethren or the public with regard to the sources of their degrees and qualifications.—ED. L.

"POISONING BY EPSOM SALTS."

To the Editors of THE LANCET.

SIRS,—Since the publication of my case in THE LANCET of Aug. 15th I have received a letter from Dr. William Sang of Dundee, who had previously recorded a case in THE LANCET of Nov. 7th, 1891, where a woman aged thirty-four years took four ounces of the salts with a view of procuring abortion, death resulting an hour and a quarter afterwards.

I am, Sirs, yours truly,

Leicester, Aug. 20th, 1896. J. HEADLEY NEALE.

R. M. G., W. J. T., and A. T.—Our correspondents will understand that we cannot print all the individual views on the individual candidates which reach us.

"A SATISFACTORY OIL STOVE."

A CORRESPONDENT writes in reply to a letter in THE LANCET of Aug. 22nd: "'M. O. H.' will find the Veritas oil stove a very good one. Paraffin is used. Stoves of different heating powers are sold. About one quart of oil per day is burned, and it requires refitting morning and evening. It can be highly recommended; I have used it for three years."

ERRATUM.—In our report of the proceedings of the British Medical Association in THE LANCET of Aug. 8th, 1896, page 433, the words of Mr. A. S. Percival "a correcting glass of ± 0·71 D" should have been "a correcting glass of ± 1·4 D."

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.)

FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY (5th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Manchester Guardian, Western Morning News, Birmingham Gazette, Western Daily Mercury, Bradford Observer, Gloucester Journal, South Wales Daily News, Yorkshire Herald, Liverpool Daily Post, Times of India, Scotsman, Citizen, Pioneer Mail, Sheffield Telegraph, Northern Whig, West Middlesex Herald, The Gazette (Montreal), Tottenham Times, Builder, Gibraltar Chronicle, Yorkshire Post, Woodford Times, Worcester Echo, Express and Star, Devon Gazette, Hull Daily News, Daily Mail, Wolverhampton Chronicle, Leicester Daily Post, Leeds Mercury, Cape Times, Herne Bay Argus, Rochester Journal, North Devon Herald, London, Northampton Herald, Brighton Guardian, Bristol Mercury, Architect, Cleckheaton Gazette, Rochdale Observer, Sanitary Record, Goole Times, Health, Times, Oxford Chronicle, Hertfordshire Mercury, Mining Journal, Reading Mercury, City Press, Local Government Chronicle, Weekly Free Press and Aberdeen Herald, Shrewsbury Chronicle, Huddersfield Daily Examiner, Local Government Journal, Bournemouth Visitors' Directory, Gloucestershire Chronicle, Catholic Times, Surrey Advertiser, Australasian Medical Gazette, Guy's Hospital Gazette, St. Bartholomew's Hospital Journal, Penrith Observer, East Kent Times, Cornish Telegraph, Sheerness Guardian, West Middlesex Herald, Western Mail, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mon. F. Alcan, Paris; Mr. F. H. Alderson, Lond.; Mr. John Adams, Lond.; A. B. C., Lond.

B.—Dr. C. Black, Glasg.; Dr. L. M. Breed, Deccan, Nalgonda, India; Dr. Armand Bernard, Liverpool; Mr. J. B. Bradley, Pensnett; Mr. N. C. Baney, Bhangulpore, Bengal; Mr. L. A. Bidwell, Lond.; Mr. H. C. Bastian, Lond.; Messrs. Burroughs, Wellcome and Co., Lond.; Messrs. Burgoyne, Burbidges and Co., Lond.; Mr. R. Bevan, Lydd; Messrs. T. Brackstone and Co., Colwyn Bay; Bradford Children's Hosp., Sec. of; T. B. Browne, Ltd., Lond.; Mrs. M. Beveridge, Leith.

C.—Mr. F. W. Cory, Bournemouth; Dr. J. Beattie Crozier, Lond.; Mrs. E. M. Champness, Rochdale; Messrs. Chandler and Son, Basingstoke; Central London Throat and Ear Hosp., Sec. of; Consulado dos Estados Unidos do Brazil, Lond., Sec. of; Consul, Lond.; Charing Cross Hosp. Medical School, Dean of; Colchester Medical Society, Hon. Sec. of; Dr. A. Cordes, Geneva; Mr. T. Cooke, Lond.

D.—Dr. S. Davies, Plumstead; Mr. R. J. Dougall, Swindon; Mr. F. Davidson, Lond.; Messrs. Duncan, Flockhart and Co., Edin.; Derbyshire Royal Infirmary, Sec. of; D. G. E., Lond.

E.—Edinburgh School of Medicine, Sec. of; Equitable, Lond.

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